



Giant beset by gnats How London's Stock Exchange is fighting back



Lonrho in limbo. Rowland and Bock allies or rivals?



Boeing's jumbo jam Pressing problems need a long-term solution



Today's surveys Int'l telecoms section III Computers in manufacturing section w

FINANCIAL TIMES

Britain warns US over unitary taxation system

Europe's Business Newspaper

Britain warned the US that it is not satisfied with the changes California has made to its system of unitary taxation and demanded a complete denunciation of the unitary method. The UK has also filed a brief to the US Supreme Court in support of a case brought by Barclays Bank of the UK against a tax assessment made hy California under the unitary system. Foreign, and especially British, companies have long objected to California's system, which taxes a company on a percentage of its worldwide income rather than only on income earned in the state. Page 4

Drug imports halted: Japanese shipments of Usevir, produced by US pharmaceuticals group Bristol-Myers Squibh and the only effective competitor to Zovirax, Wellcome's herpes and shingles treatment, have been halted following three deaths among patients. Page 17

BBC sues News Corporation: BBC World Service Television has issued a writ against Rupert Murdoch's News Corporation after Mr Murdoch's lawyers threatened to terminate the corporation's 10-year contract with the Murdoch-controlled Star TV system in Asia. Page 16

EC to ban US blood imports: The EC is planning measures which would restrict and eventually ban imports of American blood plasma and plasma products, which are currently worth \$650m a year. Page 16

Bid to close enlargement gap: The European Commission has started to produce ideas to bridge the political gap between the EC and the four Nordic and Alpine countries seeking to join the Community, Page 2

Russia admits dumping nuclear waste: Moscow confirmed a Russian tanker was dumping low-level nuclear waste into the sea north of Japan, but said international authorities had been informed of the move beforehand. Page 6

European Monetary System: The Belgian franc has replaced the Danish krone at the bottom of the EMS system following heavy selling of the Belgian currency against the D-Mark. The disparity between the lowest currency and the Dutch guilder at the top of the ladder is 6.87 per cent, still well below the new fluctuation limit established after the European exchange rate crisis at the beginning of August. Currencies, Page 29; Belgian governor attacks franc rumours'. Page 2

EMS: Grid

---- October 15: 1993 D.Mark irish Punt Escudo F.Franc D.Krone **B.Franc** 4

The chart shows the member currencies of the exchange rate mechanism measured against the weakest currency in the system. Most of the currencies are permitted to fluctuate within 15 per cent of agreed central rates against the other members of the mechanism. The exceptions are the D-Mark and the guilder which move in a 2.25 per cent band.

Trafalgar House, UK-based construction. engineering and shipping group, is expected to announce today that chief executive Allan Gormly, is stepping down. He will be replaced by Nigel Rich, outgoing managing director of Jardine Matheson. Trafalgar will also announce a rights issue of up to £400m (\$604m). Page 17

US may act on Haiti: The US has not ruled out military intervention in Haiti to protect American lives and restore democracy, President Bill Clinton's ambassador to the United Nations said.

UK tops cross-border league: Britain is top of the European cross-border takeover league, with UK companies completing more sequisitions in Europe than their counterparts in any other country during the first nine months of the year.

Bhutto strengthens hold: Benazir Bhutto's nominee, Yusuf Raza Gillani, became speaker of the lower house of the Pakistani parliament, strengthening her attempt to become prime minister again. Page 6

South African unions call strike: The Congress of South African Trade Unions has called a national strike for November 15 to protest against the treatment of workers' rights in the draft constitution. Page 7

BNP shares reach market: Shares in Banque Nationale de Paris, the bank spearheading the French government's privatisation programme. are expected to rise to a premium when they start trading today. Page 20

NatWest Bancorp, US retail banking subsidiary of Britain's National Westminster Bank, reported net income up 82 per cent to \$71.5m for tha third quarter. Chairman and chief executive John Tugwell said: "All we need now is for the economy to improve." Page 18

Money costs money: It costs the British £800m (\$1,2bn) a year in lost interest income to carry around banknotes and coins according to the first detailed study for 20 years of the costs of circulating cash around the economy. Page 8

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F1 3.75 South Africa F12.00
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Clinton concedes policy errors over Somalia

By Jurek Martin in Washington

US PRESIDENT Bill Clinton and Mr Warren Christopher, his secretary of state, conceded over the weekend that their conduct of foreign policy had not been free of error, especially in Somalia. But both, in interviews with the Washington Post, resisted suggestions that the administration's foreign policy team needed shaking up or that the president

should reduce his concentration

Both also had harsh words for western Europe. On Bosnia, for example, Mr Clinton observed "I had the feeling that the British and the French felt it was far more important to svoid lifting the arms embargo than to save the country."

Mr Christopher responded sharply to an editorial in last week's Economist magazine call-

ing for his removal also hy citing Bosnia. Such "blame America" rhetoric, he said, stemmed from the US "not having resolved the problem that Europe failed to

More generally, he added that he thought official Washington had been for too long too "Eurocentric" and that "western Europe is no longer the dominant area of the world . . . there is a lot of criticism coming from western

Europe hut I don't see or hear it coming from Asia."

Mr Clinton noted three areas where the foreign policy record might have been better: failing to engage the American public more in explaining the US role in the post-cold war world; allowing US soldiers to serve under UN command; and letting diplomatic efforts in Somalia languish over

Mr Christopher said it was

"probably an error" not to have reviewed US policy in Somalla when United Nations peace-keepers began getting killed. The UN, he argued, "is not a bureau-cracy you can turn things over to and depend on".

In fact the state department is so unhappy with the performance of Mr Boutros Boutros-Ghali, the UN secretary-general, that it is attempting to dissuade him from visiting Somalia this week as

might jeopardise the fragile ceasefire between the UN and the forces of General Mohammed

Farah Aideed.
Although in a self-critical mood, Mr Clinton doubted that a more intense "national dialogue" in foreign policy would necessarily have made any difference.

Haiti intervention not ruled out,

Threat to 400,000 jobs in EC auto sector

Study finds 'alarming' gap in productivity with Japan

By Kevin Done, Motor Industry Correspondent, in London

MORE THAN 400,000 jobs are likely to be shed in the European Community's automotive components industry by 2000, according to a confidential report prepared for the European Commission.

EC producers have failed to close an "alarming gap" in productivity in recent years, says the study, which claims European components makers achieve only a third of the productivity of Japan's industry.

The report, The Evolving Competitive Challenge for the European Automotive Components Industry, has been prepared by the Boston Consulting Group for the EC industry directorate. It suggests employment in EC

automotive components groups -now around 940,000 - "is likely to decline hy at least 40 per cent up to 1999". Such a reduction would be necessary to close only half the current productivity gap.

This would he the "absolute minimum for the industry to be viable after 1999", says the The study, which has been cir-

culated among leading European components producers, was ordered by the Commission as part of its investigation into the competitiveness of the European auto industry. Its findings are due to be presented to a meeting of the EC Council of Industry Ministers in mid-November.

The European motor industry is already in turmoil, as vehicle makers and components suppliers seek to restructure to cope with the deep recession and the growing long-term challenge from producers in Japan and the

Many leading European vehicle makers such as Volkswagen, Peugeot and Fiat, and components makers such as Robert Bosch, Mannesmann and Magneti Marelli are in loss and are cutting their workforces.

The competitiveness of the future success of European vehicle makers, as components bought from outside suppliers often account for 60-70 per cent of a car's final cost. The report says the structure

of the EC components industry "is likely to change radically with a clear movement to a tiered structure similar to that in "A concentration of first-tier

suppliers to around 500 principal ones in Europe is probable, with only between two and six main competitors in the EC for most key sub-systems," it says. The number of companies oper-ating as second or third-tier sup-

pliers may fall by up to a third, warns the study. Individual carmakers have

Tough time for car parts sector,



Two Cossack delegates vote at the meeting of the Russia's Choice party, formed in Moscow by supporters of President Boris Yeltsin to contest the December 12 elections. Deputy prime minister Sergei Shakhrai set np the rival Party of Russian Unity and Accord Report, Page 16

Bonn to ignore EC quota for cereals

By David Gardner in Brussels and Quentin Peel in Bonn

BONN is refusing to abide hy European Community limits on the amount of land winch can be sown with cereals in eastern Germany, threatening a bruising row between Germany and the EC at a meeting of agriculture ministers today.

A senior Commission official said Bonn's militancy on agriculture threatened to unravel the Common Agricultural Policy reform, break budgetary limits Bonn is constantly urging on Brussels and further complicate Gatt talks already on the brink over the farm issue.

The dispute was lgulted because the east German Länder have exceeded by nearly 10 per cent the area they are entitled to plant. Under last year's reform of the CAP, which introduced hig price cuts and production restraints to rein in oversupply, Observer, Page 15 | budgetary outlays, and to try to make possible a Gatt farm trade agreement, the former east Gerland, the Commission says 10 per Germany, made by Brussels in land, the Commission says 10 per 1992, was incorrect, by failing to many was given a "base area" eligible for EC price support of 3.6m hectares. This has been overshot by 347,000 hectares.

The Commission, interpreting the rules flexibly to allow for the prostration of the eastern German economy, proposed phasing in the sutomatic penalties for exceeding the planted area.

Brussels proposes that instead of facing a 10 per cent reduction in aid next year, the normal penalty for cultivating 10 per cent too much land, an immediate reduction of only 1 per cent will

duction next year, 20 per cent in 1995, 50 per cent in 1996 and 100 per cent in 1997.

The Commission's concession will cost an extra £cu85m (\$99m) to an Ecn36bn farm budget already in danger of exceeding its legal ceiling.

Germany responded on Friday by saying it would not respect this compromise, and would penalties from national funds. Roun says the original calcula-

tion of the "base area" in east

land devoted to maize Mr Jochen Borchert, the Ger-

man agriculture minister, said that Brussels had failed to allow for the extraordinary upheaval in east German agriculture. Far more land was taken out of use for livestock production than had been forecast, and the land was switched to production

Border controls, Page 2 Editorial Comment, Page 15 Sowing seeds of doubt, Page 17

Boeing may cut 747 output

Correspondent, in London

Although the company has just delivered its thousandth 747 to Singapore Alrlines, It has not won a single new order for its jumbos so far this year.

Production of 747s at the company's huge Everett facility outside Seattle has already come down from seven a month two years ago to four a month and will go down to three a month in

duction rates from a peak of 391/2 aircraft a month to 21 aircraft a month by the middle of next

between \$10bn and \$12bn. Mr Philip Condit, Boeing's president, said in an interview at the company's Seattle headquarters that there were no plans at

present for any further production cuts but he could not rule these out in the future. Boeing, the European Airhus consortium, and McDonnell Douglas are competing for a \$6bn order for up to 60 aircraft from Saudia, the Saudi Arabian air-

several months in the deeply depressed market which has taken a heavy toll on all manufacturers.

body to Singapore Airlines.

The Boeing group as a whole is

Economics Notebook _

last year to about 350 this year and probably 258 next year, coincides with heavy development spending on new products including the wide-body 777 airliner due to fly for the first time next year.

Boeing expects to spend about \$1.7bn on research and development this year. Apart from the 777, the company has decided to offer a new family of 737 twinengine airliners and is developing a cargo version of its 767 medium-sized airliner. It is also considering co-operating with Japansse manufacturers to develop an 80-seat jetliner.

Boeing is in the throes of extensive restructuring with employment falling from 132,695 at tts peak in 1992 to ahout 116,000 by the end of this year. Mr Condit said the company would again be reviewing its employment levels at the start of next year.

Tactics for smooth touchdown Page 14



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People to People Technology

as industry recession bites deliveries fall from 446 airliners carrying invantory worth By Paul Betts, Aerospace

BOEING, the world's largest commercial aircraft manufacturer, may he forced to shut down one of its two 747 jumbo production lines in the face of the deep recession in the airline busi-

Boeing is slashing overall pro-

Everett has inventory of \$4bn aircraft, plant and equipment.

line. The deal is likely to be the last significant airline order for

Mr Condit said there were ome "faint, positive signs" with US airlines beginning to show improved profitability and continned growth in the Asia-Pacific region where Boeing is actively seeking to sell its new 777 wide-

The cut in production rates, which will see Boeing aircraft

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UK News

Lex _ Westher Brussels working on formulas to allay applicants' doubts

EC bid to close enlargement gap

By David Gardner in Brussels

THE European Commission has started to produce what may prove workable solutions to bridge the political gap between the 12 and the four Nordic and Alpine countries seeking to join the EC. abating growing pessimism about plans for completing enlargement by 1995.

The enlargement talks, begun in February with Austria, Sweden and Finland and two months later with Norway, must be completed by early spring at the latest to meet the January 1995

Yet the real differences hetween the EC and the applicants - all of which will put accession to a referendum among increasingly Euro-sceptical populations - remain to be resolved. But Brussels is now evolving formumental and health and safety standards, and agricultural and regional subsidies, which could herald a psychological breakthrough in what risked becoming a dead-end process.

By the October 29 EC summit, substantial progress is expected on aligning health and safety and veterinary standards, indirect taxation, and making candidate countries' legislation compatible with the EC's single market. At an extra ministerial meeting in Brussels on November 9, talks will start on bringing the four - all except Norway formally neutral - into the Maastricht treaty's common foreign and security arrangements, and into co-operation on such issues as terrorism, drugs and immigration.

Senior EC negotiators expect compro-

the single market by Christmas, and on cult issues (such as health labelling on agriculture and regional policy by the end of February.

The environment - where all four applicants feel their deep green populations will reject entry if the EC is seen to he lowering what they consider higher standards in order to remove impediments to horder-frea trade -"may prove to be decisive for the successful conclusion of the enlargement exercise", an internal Commission doc-

Brussels is advocating a threepronged approach: refusing to hudge, for example on car emission standards, where standards are equivalent if different, offering transitional exemptions where the EC has decided to raise standards but not yet (for example on safety

las in sensitive areas such as environ mise packages on the environment and belts); and to deal with the most diffiproducts or certain pesticides) by grant ing transitional exemptions with a reviaw after three years - hy when applicants which had persuaded their lectorates would be inside the EC.

Entrants would have a full voice and vote in the review, a mechanism designed "to keep everybody's aspirations alive" a senior Commission official told the FT. In the interim they would not be allowed to use border controls to keep EC products out.

Border controls, abolished by the EC's single market, loom large in the crucial agriculture debate, where the four applicants want to continue subsidising farmers at between 25 per cent (Austria) and 100 per cent (Norway) above an already high EC average.

Berliners unimpressed by Kohl plan for 2001, the office space odyssey

Kohl's announcement last week that the federal government will complete the move from Bonn to Berlin this century should have been a cause for celebration among the capital's property develop-

But enthusiasm is hard to detect among the city's property developers. They do not take the chancellor's words

"I am very sceptical, to say the least," says Mr Mark Palmer, who, in partnership with Mr Roland Lauder, the US cosmetics heir, is investing DM1bn (£406m) in building the American Business Centre, an office complex on the site of the former Checkpoint Charlie border crossing which once divided the city. Construction is due to start in January.

"The government announced in 1991 that it would move the government. Who's to say it will not change its mind again? l am looking for some tangible evidence that this time the government will stick to its words," says Mr Palmer, a former US ambassador to Hungary and now a property devel-

There is some evidence of movement. A dozen senior staff from the federal Defence Ministry are already ensconced near the Landwekhkanal, near the centre of Berlin and conveniently close to the Berlin Philharmonic. More significantly, President Richard von Weizsäcker, will move permanently to Berlin on January 1. And the President's New Year's Ball will be held in Berlin. much to the chagrin of the civil servants on the Rhine.

But before any move can take place, the Bundestag, or lower house of parliament, has to pass the "Berlin-Bonn Gesetz" - the legal approval. This night take place over the next few weeks. Mr Frank Möller, who runs the marketing arm of the American Business Centre, believes early passage of the law is crucial.

"We got some clarity last week. But now we need the law legitimating the timetable," he says from his office

awaits the bulldozers and the cranes.

If the government does stick to the timetable, property developers believe it will speed up the city's building programme. Jones Lang Wootton, the UK property consultants which opened offices in Berlin and Leipzig three years ago, reckons a whole range of financial services, from banking to insurance companies will

Developers do not yet believe chancellor's pledge to move the government east, writes Judy Dempsey

accompany the move and they will need offices.

The new capital will inherit many of the old ministry buildings from the former communist regime, but offices and accommodation will be for ancillary and support staff moving to the new capital.

But Mr Sascha Hettrich, Jones Lang Wootton's Berlin manager, argues that investors must not wait for the government. 'It makes no sense to wait for something that is supposed to happen in the future," he says, betraying his own sense of scepticism about the government's commitment.

Jones Lang Wootton, and many other property consultants, rushed to Berlin in the wake of German unification and snapped up prime locations in anticipation of an early move. The expectations fuelled property prices, which Mr Hettrich says increased from "zero to 100" between 1990 and 1992, its peak.

Renting a square metre of office space, without any services, cost about DM90 by last year. The market has since fallen to about DM60, "The prices are now stable and they might well remain so for some time yet." adds Mr Hettrich.

HANCELLOR Helmut overlooking the site which Bonn - or what Mr Palmer calls "inertia by the bureaucrats" - private investment of over DM11bn has been poured into Friedrichstrasse. The street is a short walk from the future finance and economics ministries. Mr Hettrich estimates that over the next dozen years, demand will match supply, regardless of the move, if the recession ends soon. "Between 7m and 8m square metres of office space will be

available over this period." In the meantime, property developers fear that Mr Theo Waigel, the federal finance minister, will try to postpone the move on the grounds of cost, which swings between OM20bn and DM30bn. "I don't understand the costs. Most of the ministries are ready to move into," says Mr Palmer.

Berliners cannot understand what all the fuss is about. "I suppose the Rhinelanders want to stay in a provincial town," said Mr Heiner Konitz, a computer programmer. "But if the government does not come here. Berlin could remain a provincial city in the heart of Europe. Who wins?"

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night well remain so for some ime yet," adds Mr Hettrich.

Despite the hesitation in Fix 33 93 53 35.

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Ministers meet today on border controls

By Andrew Hill in Brussels

MINISTERS from nine EC countries should decide today whether it will be safe to scrap systematic passport controls at their internal frontiers from December 1.

But France, which will chair computer. today's meeting in Paris, still appears to be uneasy about opening its borders and could block a decision, setting back efforts to end frontier controls across the Community.

At their last meeting in June, the nine signatories to the Schengen frae-travel accord - all the EC members except Britain, Denmark and Ireland - agreed to abolish controls from December, if certain conditions were met.

decide today whether the Schengen group has made sufficient progress in three key areas: improving checks on people coming from outside the free-travel zone, fighting drug trafficking; and linking police and immigration authorities hy

On Friday, Mr Alain Lamassoure, France's European affairs minister, voiced his government's continuing concern about certain elements, particularly delays in linking computer systems and strengthening checks at external

He told the EC affairs committee of the French National Assembly that France might delay a decision until next month's ministerial meeting.

postponing the deadline for two months, or calling for gradual application of the Schengen accord, which came into force on October 1. The French parliament fears

aholishing controls prema-turely could lead to "an increase in illegal immigration. an increase in drugs trafficking and a general weakening of security in Europe". Schengen and European Commission officials hope Mr

Lamassoure will hury his doubts in the interests of achieving unanimous agreement under his chairmanship. Agreement would allow Mr Raniero Vanni d'Archirafi, the EC internal market commissioner, to press ahead with

attempts to persuade Britain.

Brussels believes that was one of the clear objectives of the single market programme, most of which came into force on January 1. Most continental EC conntries have already scrapped

ish controls on travellers com-

ing from other EC countries.

controls on people crossing internal land borders by train or car, but passport checks are still in place at most ports and airports, where intra-EC and international travellers mingle. Large EC airports like Brussels and Amsterdam are unlikely to meet the December I deadline, even if it is agreed today. They will be given time to split immigration and baggage-handling facilities for passengers from Schengen and non-Schen-



Belgian governor attacks franc 'rumours'

By Andrew Hill in Brussels

RECENT pressure on the Belgian franc is due to "false rumours" circulating in the foreign exchange market, according to the governor of

Belgium's central bank. Mr Alfons Verplaetse said at the weekend the franc - which last week slipped to BFr21.99 against the D-Mark - was undervalued given the fundamental strength of the Belgian

Mr Verplaetse's comments were aimed at stabilising the currency at the beginning of an important week for economic and monetary policy. A committee he heads will present a report to Mr Jean-Luc Dehaene, prime minister, tomorrow, giving the outline of a "social pact" hetween the

government, employers and

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unions - the first since 1944. The report is understood to endorse the central bank's strict interest rate policy. Mr Dehaene is known for

never setting deadlines for tough negotiations but it is thought he may try to achieve a consensus by the end of the week on how to improve Belgian companies' competitiveness, reduce labour costs and cut the budget deficit.

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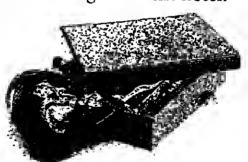
Mr Verplaetse believes the employers and unions will either immediately sign the outline pact or allow the government to push through legislation to achieve the aims of the pact, without giving their formal approval.

He again denied at the weekend that the franc might have to he devalued. He also dismissed rumours that the 71year-old currency association between Belgium and Luxembourg was under threat, or that the central bank's reserves were exhausted. Both the Belgian and the

unsustainable.

French franc have been the target of speculation in recent weeks, hecause foreign exchange dealers helieve the two countries' strict policy of maintaining interest rates and shadowing the D-Mark is

This is the business traveller L. checking out of his hotel.



This is the scarf his wife 3. wanted uptown.



This is the club he · wanted in town.



• This is the place that helped.



This is the flight which ∠. left in three hours.



These are the shoes his 4. girl wanted downtown.



These are the things that O. were slowing him down.

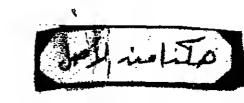
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Ten killed in Sarajevo bombardment

BOSNIAN Serbs, Croats and Moslems battled for territory across the republic yesterday and accused each other of plan-ning large offensives, Reuter reports from Belgrade.

In Sarajevo, the Bosnian capital, a crisis centre which monltors casualties reported that 13 people had been killed and 78 wounded during the week-end. Ten were killed in tha city itself, which endured its worst shelling in weeks on Saturday.

A Bosnian army commander said the artillery barrage could be a sign that Bosnian Serbs were preparing an assault on the city. UN officials have reported Serb troop movements around the city but are unsure whether the Serbs plan

The Serbs said it was the

push forward on fronts in cen tral Bosnia. There were also clashes

around Gracanica in the north-east, Maglaj in central Bosnia and Jablanica in the In the north-western Bosnian enclave of Bihac, Bosnian Mos-

lem government troops clashed with rebel Moslem soldiers loyal to the enclave's leader, Mr Fikret Abdic, during fighting in two villages.

Meanwbile, Moslems and Bosnian Serb officials met at Sarajevo airport yesterday to discuss a possible exchange of prisoners of war as well as relief convoys for two Moslem enclaves. Sarajevo radio said the Bosnian Serha promised safe passage for relief convoys The Serbs said it was the Moslems who were trying to Maglaj and Tesanj.

Foca's ruined mosques testify to Serb 'victory'

By Laura Silber. recently in Foca

FOCA'S Moslem bazaar has been gutted and more than 16,000 Moslems have been killed or expelled. All but one of the nine mosques in the town situated in south-eastern Bosnia have been destroyed, although Mr Ljubo Todovic, the deputy mayor, insists the Moslems had already let them fall into disrepair.

Serbian authorities have nearly erased all traces of the centuries-old Moslem presence in the region. One of Foca's many refugees now living in Sarajevo, Suad, who fled his home town 18 months ago, no longer believes he, or any other Moslem, will return

"I bave lost bope that I will ever go back. But I have also come to understand that a town without the people is no

"When I left, I saw the Ser-bian symbols and flags waving all over the region which had once belonged to all of us."

Foca is one of a string of towns in eastern Bosnia taken by Serb forces in April 1992. Bosnian President Alija Izetbegovic discussed the return of Foca during discussions over the partition of Bosnia into

three ethnic states. He finally rejected the plan, however, on the grounds that it rewarded military aggres-

Ç.

Mr Todovic dismisses out of

Moslem state. Escorting visiting reporters, he nervously allowed them to speak to passers-by. He nodded eagerly when one tired-looking man described life in Foca as

Wounded on the front line, Mr Todovic no longer wears a uniform. He told a woman to "shut up, no one asked you to speak", when she complained that the people had nothing to

Isolated from the outside world, Serb soldiers control checkpoints tightly.

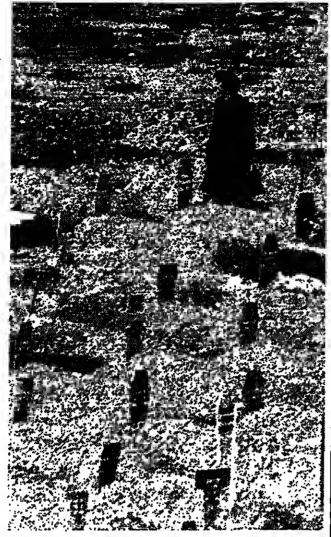
Although local factories are back in operation, life appears bleak. The town's 30,000 Serbs, a third of them refugees, have piled stacks of wood everywhere in preparation for win-

three-fingered Chetnik salute; instead they stick out their But there is little traffic. Cars have been mostly taken

over by the military; besides, there is no petrol.
"We live like cattle," said an elderly woman dressed in black, leaving the dismal vegetable market, hauling sacks of

potatoes and cahhages. "The refugees come from villages bringing their animals with them. They have nowhere else to go."
But Mr Todovic believes the Serbs have won their war. He

appears not to see the empty shops and the climate of fear instilled by his rulers. hand the possibility that his



Pyramids with giddy heights

LURED by the promise of multiplying their money eightfold every three months, Romanians hava flocked to the Transylvanian town of Cluj to invest their meagre savings in a scheme known as Caritas - a money-making "pyramid"

For 18 months, Caritas - run by Mr Ioan Stoica, economics graduate and former bookkeeper – kept its promises, turning investors into lei millionaires and drawing more people into its net. But in the last few weeks Caritas has several times failed to pay out, hitting investor confidence.

Caritas appears to be a classic Ponzi scam, named after Mr Charles Ponzi, an Italian immigrant operating in Boston just after the first world war. He persuaded 40,000 investors to part with \$15m by promising to double their money every three

In theory, he was using their savings to take advantage of arbitrage opportunities in international postal coupons. In practice, he was recycling the savings of new investors to pay back the earlier investors. When the scheme collapsed, Ponzi was sent to prison. He ended his days as a pauper in Rio de Janeiro.

Such financial chain letters survive only as long as invest-

MR Ioan Stoica, the owner of a Romanian money multiplying scheme which has sucked in about 3m investors and the equivalent of hundreds of millions of dollars, yesterday denied reports the scheme was about to collapse, writes Virginia Marsh in Bucharest.

"God has helped us. The cir-cuit is strong and healthy, It will never collapse," Mr Stoica said. Several thousand people chanted their support for the scheme at a sports stadium in Cluj, the Transylvanian town where the venture is based. Mr Stoica, who was accom-panied by Mr Gheorghe Funar,

the town's mayor and leader of the Romanian parliament's largest nationalist party, said quenes had shortened in recent weeks because he had nlarged his computer system and employed more cashiers.

creasing rates. In Ponzi's acheme, he had to double inflow of cash every three months. With Caritas, the promise of an even more extravagant eight-fold increase in three months implies a need to double inflow every month. Wall-run Ponzi schemes can be kept going for months or even years. But all are eventually doomed. The supply of funds cannot rise exponentially in perpetuity. It is only a matter of time before funds dry up, investors panic or authori-

Caritas, the largest of many similar unregulated schemes in post-communist Romania, has become a national obsestens of thousands of Romanians, encouraged by tales of Caritas millionaires and Mr Funar's backing of the sche descended on Chij each week. Mr Stoica, a former book-keeper, hlamed a computer

error for the four days when the scheme failed to pay out.
His profits from Caritas –
believed to exceed \$40m
(£26.4m) – would enable him to set up a bank and a supermarket chain and could give other entrepreneurs similar opportunities, he said. "I beg you to keep investing becaus through Caritas we can create a middle class wealthy enough

tles step in. The early investors, of course, get rich. The laggards lose their savings. Ponzi schemes have croppe up in many parts of the world. The UK's Barlow Clowes scandal was effectively a Ponzi scam: the high dividends initial investors received were

to start real privatisation in

paid not by shrewd investment but by later investors' cash. Many people in the industrialised world have the experience of being recruited to join pyramid clubs, where they stand to receive large sums of

But recently there seems to have been a particularly strong appetite for "double your money" schemes in some former east bloc countries. Caritas is just the largest of a series in Romania. Serbia also appears to have spawned sev-

There are various theories Why such countries might be vulnerable to such schemes. One is economic deprivation, which has made people desper-ate to try anything to enrich themselves or merely maintain living standards. In Romania where earnings have fallen by a third in the past three years, there are tales of pensioners sinking casb into Caritas because they saw that as the only way to meet heating and

Another theory is that societies in transition from communism to capitalism may be susceptible because they have oo tradition of discriminating between sound investment and scams.

Given the size of the scheme in Romania in relation to its economy, there are dangers that its coliapse could have lasting damage. Investora could be so badly burnt they lose faith in financial markets and go back to stuffing cash under mattresses, so stifling the flows of investment neces-

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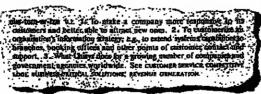
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US stands

intervene

military intervention in Haiti

to protect American lives and

restore democracy there, President Bill Chinton's ambassador

to the United Nations said yes-

terdey. Reuter reports from

Washington.
Ms Madeleine Albright said

Washington was monitoring

the situation closely and was

standing by to evacuate some

"The protection of American

1,000 Americans if necessary.

lives is foremost in our minds,

she said. "We don't rule any-

thing in or anything out. This

in Haiti

by to

UK warns **US** over unitary taxation

By George Graham in Washington

THE UK has warned the US that it is not satisfied with the changes California has made to its system of unitary taxation.

In a formal demarche last week to the US State Department on behalf of the EC and eight other countries Sir Robin Renwick, the British ambassador, said new Californian legislation which in effect allows foreign companies to opt out of the unitary system did not resolve the unitary tax prob-

The EC countries, together with Australia, Austria, Canada, Finland, Japan, Norway, Sweden and Switzerland, said they would not be satisfied unless the normal arm's length system of taxation was established "as the only legitimate basis of taxing foreign companies in any state".

The UK has asked the US Supreme Court to take np the issue, filing a brief in support of a case brought by Barclays Bank of the UK against a tax assessment made by California under the unitary system.

Barclays is appealing against a ruling by the California state supreme court in favour of the state tax authorities, in a test case for suits by other foreignowned companies which could cost California \$900m (£596m).

Foreign, and especially British, companies have long objected to California's system of unitary taxation, which taxes a company on a percentage of its worldwide income. rather than only on income earned in the state.

The Clinton administration last week urged the Supreme Court to ignore Barclays appeal, on the grounds that the new California legislation resolved the issue.

But the UK's lawyers argue that the Supreme Court needs to resolve the constitutional issues raised by unitary taxation, since "foreign policy issues are so directly implicated and lower state courts appear totally confused by this Court's prior pronounce-

Rocky road ahead for EC motor parts sector

A secret report says drastic action is needed to fight off Japanese competition, writes Kevin Done

must restructure in the 1990s to close an "alarming" competitive gap with Japan, according to a confidential report prepared for the EC

The industry, which has a crucial role in shaping the fortunes of European carmakers, is "the weak link in the European motor industry's competi-tivenese today", says the report, "It will be under even greater pressure in the future." The industry employs around 940,000, and has annual output worth Ecu92.7bn (£72bn).

Commissioned by the EC industry directorate from the Boston Consulting Group, the study claims that "unless dras-tic action is taken soon, the competitive gap in components risks widening even further".

The report says:

• Employment in the industry is likely to fall from just below 1m to around 500,000 by 1999. The fragmented industry will be forced to restructure and concentrate as vehicle makers drastically reduce the number of direct suppliers by around two thirds between 1988 and 1997 - to a core of around 500 first-tier suppliers across Europe. The number of

remaining supplier companies is likely to fall by a third. • The productivity of Japanese vehicle makers is around 30 per cent higher than their European rivals but in the components sector Japanese productivity is 2.5 times

1991, reflecting "the slowdown in demand, increases in capacity, reduction in prices, and the fierce competition that is accompanying the sector

The report says the European Commission can play "a useful supporting role" in facilitating restructuring of the industry, although the main efforts must come from the companies themselves. EC initiatives are called for in training and employment

Japanese productivity is 2½ times that of European companies

ures, in harmonising standards, in encouraging co-opera-tion in research and development and technology, and in competition policy.

The upheaval now under way most critically in the German motor industry among both vehicle makers and their components suppliers is central to the restructuring of the entire industry.

Germany alone accounts for 47 per cent of the production of the EC independent components industry (excluding production by the vehicle makers themselves), for 53 per cent of the sector's added value and

UROPE'S automotive • The profitability of Eurocomponents industry pean components manufacture.

Proposed to the profitability of European components manufacture. of production, the UK for 12 per cent, Italy for 11 per cent and Spain for seven per

Original equipment - compo nents used in new vehicles accounts for 77 per cent of the total EC components market of Ecu88.8bn. Growth in demand of 21 per cent from 1988 to 1992 has come from a small increase in vehicle production, bnt chiefly from moves hy vehicle makers to huy more components from outside suppliers to reduce their own in-house components manufacturing, from the use of more sophisticated components in vehicles and a shift to the production of

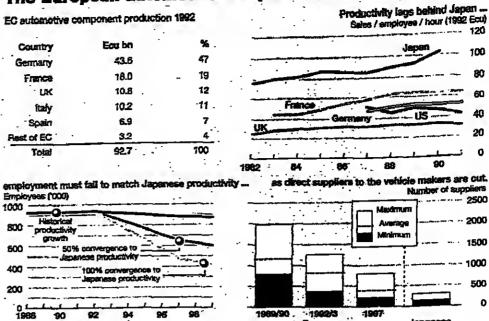
higher value vehicles. More job losses will follow those already announced this year, says the report. Several leading European vehicle mak-ers are already demanding cost and price reductions of more than 10 per cent a year from their suppliers. "Employment is likely to decline dramatically ... as the growth of consumption and production slows down and the rate of productivity by necessity scceler-

If productivity continues to grow hy 4 per cent a year as in recent years, employment in the industry would be reduced by 11 per cent by the end of the decade. "However, this level of productivity growth would leave the industry hopelessly unviable at the end of the period and in danger of col-lapse," says the report.

LK italy Rest of EC doyees (1000)

survive after 1999".

The European automotive components industry



"If the European components industry were to reach, in 1999, the level of productivity of the Japanese industry in 1992, then employment would be reduced hy 54 per cent, implying a 14 per cent per annum improve-

Even such a drastic cut in jobs, however, would not guarantee the EC reaching parity with the Japanese industry, which has lifted productivity hy 5-6 per cent a year in the last decade. The report says the productivity gap must be at least halved as "the absolute minimum necessary for the industry to be in a position to

European components pro-

only 5-7 times a year on average compared with nearly 19 for their Japanese rivals.

Concentration of ownership is one of the main structural changes facing the sector. The process is being driven, says the report, by "the lack of competitiveness of many suppliers in an extremely fragmented industry", and by changes in vehicle makers' policies towards: more outsourcing and the transfer of design and development to the supplier industry; the sourcing of components to single rather than multiple suppliers; the purchasing of systems rather than individual components; and the formation of strategic buy-

As the industry restructures drastically, the report says it will be transformed, having fewer but larger suppliers with a European presence; assembling systems in factories near the car plants: subcontracting non-core production to secondand third-tier suppliers, and enjoying supply contracts for the life-time of vehicles and shared R&D with vehicle mak-

From a structure based on confrontation between the vehicle makers and their suppliers, the motor industry would have to move "towards one based on pertnership where profit is shared among the different players in the

is a very tense situation, but one in which we have to mainlain calmness about our response. Reports from Port-au-Prince said hundreds of foreigners fled Haiti yesterday after a night of heavy gunfire in some of the capital's neighbourhoods. The country's international

airport was jammed with American and Canadian citizens who were urged to leave Haiti or take security precautions ahead of stringent UN trade sanctions which come into effect at midnight tonight New York time.

On Saturday the US embassy flew in 30 additional Marine guards and set up a telephone network to alert American citizens about potential violence, The Canadian embassy has

urged all 2,300 of its citizens to leave the country immediately. US warships and three Canadian vessels, some visible from the capital city, will make sure that no fuel or arms are allowed to enter Haiti. The UN sanctions also include freezing the foreign hank accounts of army chief General Raoul Cedras and other military leaders. Ms Albright said the US was

still hoping that Gen Cedras would step aside and allow democratically-elected President Jean-Bertrand Aristide to return to power on October 30. Gen Cedras led the 1991 coup

that ousted Mr Aristide. Gen Cedras refused to relinquish power on Friday, as had heen scheduled under a UN plan to return Mr Aristide to

Leading Kuwaiti oil executive quits

By Mark Nicholson in Cairo

MR Abdulrazaq Mulla Hussein has resigned as deputy chairman of the Kuwait Petroleum Corporation, the group which owns the Gulf state's oil producing and refining interests, over what appear to be differences on management strategy with Mr Ali al-Baghli, the oil minister.

News of Mr Hussein's resignation emerged in articles yesterday in two Kuwalti dailies, Al-Qabbas and Al-Watan, and

were confirmed hy Kuwaitis close to the KPC. Al-Watan quoted Mr al-

Baghli as saying that "there was s difference in the points of view about how to manage the oil sector". Other Kuwaiti sources said these differences had been fes-

tering for months within KPC.

where Mr al-Baghli's style had ruffled feathers among senior Mr al-Baghli, a Shia and lawyer hy background, took over oil minister simultaneously to hold a seat in the National

Kuwaiti sources said that many within the state-owned KPC management had felt measy about the way that Mr al-Baghli combined what they viewed as a largely technocratic portfolio with his desire to sustain a high political pro-

Managers, including Mr Hussein, are understood to have Ms Siham Rizouki, an unde been particularly dismayed by secretary at the oil ministry. the Oil Ministry after last

Juckoffie y

year's elections and is the first several public criticisms by the minister of the group's strat-

> The Kuwaiti sources said Mr Husseln's resignation was unrelated to reports in the Financial Times about KPC's alleged role in the purchase of the Gulf state's investment in BP in the late 1980s.

> Leading candidates to succeed Mr Hussein are Mr Nader Sultan, former head of Kuwait Petroleum International, and Ms Siham Rizouki, an under-

Latin American leaders in trade plea to Clinton

By David Pilling in Santiago

LATIN AMERICAN leaders are to write to President Bill Clinton urging the US Congress to approve the North American Free Trade Agreement, Failure to do so, they will say, would be a bleak omen for US policy towards the continent.

The decision to send the letter, to he drafted hy Chile's President Patricio Aylwin, was taken in Santiago at the week-

end during a two-day summit of the Rio Groop of Latin American and Caribbean Leaders see Nafta as a vital

first stage in building a regional trading bloc, regarded as an insurance policy against possible failure of the Gatt global trade talks. "Nafta is a first step towards creating a huge free trade zone spanning the continent," said President César Gaviria of Colombia.

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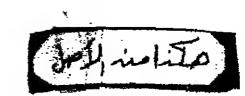
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NEWS: INTERNATIONAL

vote goes Bhutto's way

By Farhan Bokhari

THE nomination yesterday of Mr Yusul Raza Gillani as speaker of the lower house of the Pakistani parliament, the national assembly, has strengthened Ms Benazir Bhutto's attempt to become prime minister again.

Her nominee won with a comfortable majority over his rival. Mr Gohar Ayub.

The voting confirmed Ms Bhutto's lead over Mr Nawaz Sharif, her arch rival, whose PML (Pakistan Moslem League) party was backing Mr Khan. Ms Bhutto's PPP (Pakistan People's Party) won the largest number of seats in the elections, but needs support of independents to form a major-

"The results of the prime minister's elections will be even better. We are confident of carrying most of the parties with us," said Mr Farooq Leghari, secretary general of the PPP, after yesterday's results. The PPP is expected to gain the support of independents affiliated to neither of the two parties.

However, the two sides are still locked in battle for control of Punjab, the biggest and

Speaker Talks fail to end Kashmir shrine siege

By Shiraz Sidhva in New Delhi and Farhan Bokhari in

ARMED Kashmiri separatists besieged the Hazrat Bal shrine in Srinagar for a second day yestarday.

Late last night the militants and the Indian administration were still negotiating.

In Muzaffarabad, capital of Pakistani-controlled Kashmir. crowds of demonstrators yesterday protested in response to a raid by Indian troops on the Moslem shrine. Young men and women shouting anti-Indian slogans marched through the the city,

Pakistan's state controlled tetevision reported last night. The Pakistanl government condemned the indian action and called it a "grave and provocative action on the holy shrine by indian forces on fabricated pretexts".

A foreign office announcement in Islamabad said: "This sacrilege committed against the holiest shrine in Kashmir will be deplored by civilised opinion throughout

the world. Meanwhile, some religious

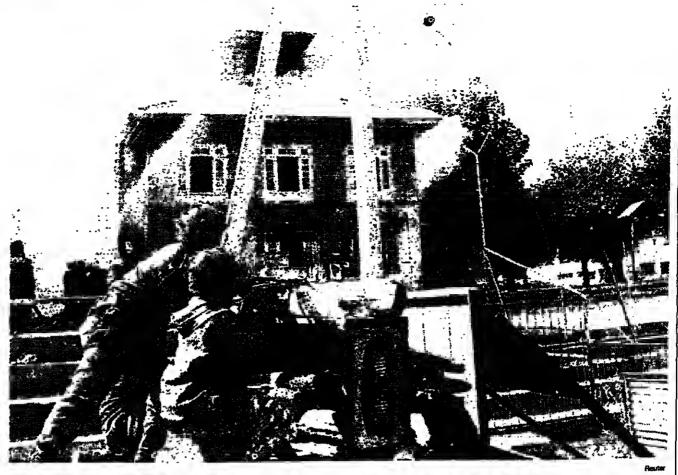
leaders are expected to call upon their followers today to hold peaceful demonstrations against the Hazrat bal Incident. Security around Indian diplomats and diplomatic missions was expected to be tightened last

night, senior officials said. The government is also monitoring the security around a small number of Hindu temples, especially in southern Pakistan, which became the target of attack by Moslem demonstrators after last year's demolition of the Babri mosque in Ayodhya, India, by Hindu fanatics.

Army reinforcements were sent to the shrine after part of it was set on fire on Saturday afternoon, to ensure that the holy relic, believed to be a lock of the prophet Mohammed's hair, was safe.

The militants have demanded the withdrawal of the army from the area, and asked for the curfew to be lifted, so that the shrine, along with the holy relic, can be handed over to the care of the ulema. the Moslem theologians.

The government achieved a



Indian troops in position as firefighters tackle a burning house beside Kashmir's holiest shrine at Srinagar

Mr A K Suri, the inspector general of police, and Mr Wajahat Habibullah, a senior administrative official. established direct contact with the militants inside the

after the area was cordoned off on Friday.

The security forces have been careful not to storm the mosque and chose to wait it out, since the use of force could lead to bloody One person was killed in an repercussions in the valley, extended gun battle between where an armed insurgency

breakthough yesterday when militants and the paramilitary has been raging since 1989. The Kashmir valley experienced its worst violence in decades in 1963, when the holy relic was stolen, it was later returned. Officials in india's home ministry are being particularly

cautious about future steps because they do not want to play into the hands of

militants, who may use religion to whip up more anti-India frenzy in the valley. "We know how heavily India paid for Mrs Gandhi's decision to storm the Golden Temple (in Amritsar) in 1984," said a senior official. "We cannot afford a similar mistake in

had been told about the dump ing and the level of radiation in the waste was very low. Japan said it was concerned after Greenpeace revealed that the waste was being dumped. According to the environmental group, the Russian vessel started pumping liquid waste directly into the sea west of Hokkaido, northern

Russians

dumping

RUSSIA'S environment ministry yesterday admitted

that a Russian tanker was

dumping nuclear waste into

the ocean north of Japan. It

said international anthorities

had been informed in advance.

Deputy environment minis-ter Mr Amirkhan Amirkhanov said interested governments

N-waste

admit

Japan, yesterday morning. The waste was mainly reactor coolant and cleaning water from the Russian Pacific fleet's dilapidated nuclear submarines, said a Greenpeace ship following the tanker. Greenpeace measured airborne radiation at around 10 times hackground levels around the Russian ship.

Sensitivity over environmental issues is increasing in Japan, where anxiety is especially centred on pollution imported from neighbouring countries, such as acid rain from Chinese nuclear power stations and seaborne nuclear waste from Russla.

The dumping, in apparent violation of a 1983 international moratoring over the dumping of nuclear waste sea, could add fresh strain to sensitive relations between Japan and Russia.

It comes just a week after relations had improved, thanks to a successful visit to Tokyo by President Yeltsin.

Mr Yeltsin and Mr Moribiro Hosokawa, the Japanese prime minister, voiced "serious concern" over the ocean dumping of radioactive waste, in a joint declaration last week. They agreed to investigate nuclear dumping in the Sea of Japan by the former Soviet Union.

accused of poll bias

By Emiko Terazono in Tokyo

JAPANESE television, which broke with its tradition of supporting the ruling party in the July general election, could be forced to return to its old compliant ways with the launching of an investigation into alleged blased coverage

The Ministry of Posts and Telecommunications last week started to investigate TV Asahi, a national network, on charges of intentional blas in its election coverage.

The network's executives are being questioned for violating a new more western trend. the broadcasting laws by

instructing reporters to distort stitution guarantees freedom of its campaign coverage in a way that would help the popular reformist parties. Ministry officials say TV Asahi could face up to three months' suspension from broadcasting if It has broken the law.

. The investigations come when the Japanese media, known for its cosy relationships with bureaucrats and politicians, is being questioned over its role in society. Recent coverage exposing political corruption by newspapers and television seemed to represent Although the Japanese conspeech, the telecommunica-tions ministry, which controls broadcasting licences, points out that broadcasting laws stipulating "political fairness" come first.

TV Asahi denies the allegations, and says its coverage is fair. There has been no public criticism over the govern-ment's probe, and the Japanese media have even denounced TV Asahl for putting the freedom of reporting at risk. Leaders of the LDP, who have been frustrated by recent

Space agency lands ice cream deal the delights of Baskin-Robbins Limar Cheescake. By Philip Rawstome

CHINA's satellite launch and tracking control agency today fires itself into a new business

orbit selling lce-cream. While keeping one commercial eye on outer space, the agency has for some time been tracking the advance of western consumer lifestyles into China. It has already diversified into such down-to-earth activities as running hotels and restaurants.

Now it has formed a joint venture with Allied-Lyons, the political coverage, have joined in the calls against TV Asahi. UK drinks, food and retailing in the calls against TV Asahi. UK drinks, food and retailing ice cream.

The world's biggest ice cream chain today opens for business in Beijing where Allied-Lyons is investing \$1m in four stores. Mr Tony Hales, Allied's chief executive, will perform the opening ceremony according to Chinese custom. Baskin-Robbins - recently

voted "America's Favorite Sweets Chain" for the 10th time - does not plan to commemorate the event by adding another exotic flavour to its roster of 650 recipes. Though Neil Armstrong's moon land-ing in 1969 was celebrated with

China is the 48th country in which Baskin-Robbins has

landed since then - and the Chinese will have to be content, for the time being at ieast, with the usual daily menu of 31 flavours to be found in any of the 3,600 shops worldwide. These include the "sinfully

rich" Kahlua 'n Cream, Jamoca Almond Fudge, and Daiquiri ke. It would not be surprising. however, if Beijing's customers were also given a taste of Red Bean ice-cream that has been so successful in Korea, or the Green Tea flavour that has

of the Chinese to milk and other dairy products does not extend to ice cream. The group also expects to benefit from the laws which restrict Chinese families to one child. 'It tends to make parents very indul-If the stores succeed -

gone down so well in Japan.

Allied's market research has

shown that the usual aversion

Allied is investing a lot of effort in staff training to establish a service culture - the group plans to build an ice cream factory in Beijing, capable of producing 2m gallons a

Reformers tread different roads to capitalism

has produced a similar atmosphere in the capitals of the two former communist superpowers. Central streets of both cities are invariably congested with traffic. street pavements are packed with unofficial market-sellers, while all around construction teams work on sites of luxury

hotels and office blocks. Governments in both capitals seem, at least at first sight, to face similar economic challenges. Both are trying to stabilise accelerating inflation by reforms which claw back power from regions. Both know reform depends on stopping the flow of central bank credits to loss-making

state enterprises. But outside the two cities these similarities in economic development fade. Moscow is ahead of other cities in outward signs of transition to a market economy. Regional centres, such as Volgograd, show little sign of private entrepreneurship other than kiosks selling western clgaeast and south make the capital look dour and dowdy, other regional centres, such as Chengdu in the west or the northern municipality of Tianjin, also rival Beijing for colour and market-orientated activity.

Apparent similarities between economic tasks facing the Russian and Chinese gov-ernments fads just as fast. Russia is trying to stabilise inflation of 20 per cent a month, fuelied by credits to collapsing state industries. Chinese inflation is a little over 20 per cent a year because the non-state economy is growing too fast.

The same factors which account for the different pattern of regional development explain why China cannot be a role model for Russian reform, according to two Chinese economists, Yingyi Qian and Chenggang Xu. The reason, they argue, lies in very different political and economic structures which characterised the planned economies of both countries. Economic planning in the Soviet Union

centred in Moscow. But China's experiment with Stalinist central planning in the early 1950s was judged a failure, while Beijing had less reason than Moscow to distrust its regional governments. The result is that Chinese planning was much more less centralised - by 1978, fewer than half of state enterprises were controlled by the central government.

This decentralisation explains why China's relatively autonomous provinces have been the driving force behind reform. Freed from central controls, and keen to find tax revenue, local governments have encouraged emergence of new enterprises. The most dynamic growth has been in rural areas in the form of collective enterprises controlled by town and village administrations. By 1990, these enterprises accounted for a third of industrial output and almost 40 per cent of employment. This growth has enabled China's economy to grow by an average 9 per cent a

BEIJING remains distinguished by rettes and alcohol. Beijing, by contrast, is bicycles, Moscow by dour Stalinist architecture, but arrival of the market economy While Shanghai and Guangzhou in the state tries, while co-ordination and control were industrial sector. This sector accounts for only half of output - and is shrinking each year - compared to almost all non-agricultural production in Russia. Meanwhile, decentralisation means China's remaining state manufacturing enterprises are much smaller, averaging 145 employees in 1988 compared to 806 in Russia, and less regionally specialised.

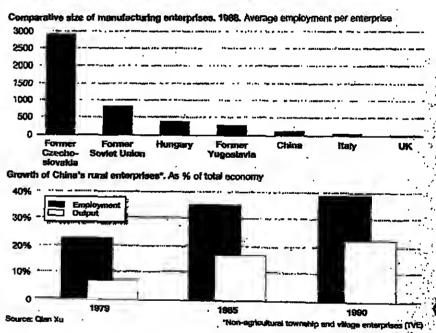
After over a decade of growth, reform

and partial closure of China's remaining state enterprises look difficult but feasible. In Russia, size and regional concentration of state industry make this task more difficult. But Russia's inflation demonstrates state enterprises cannot be ignored.

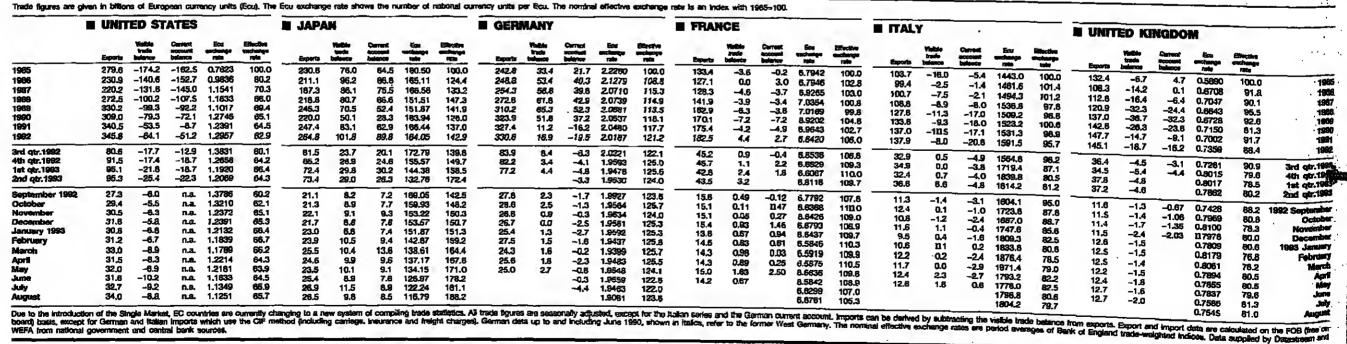
Edward Balls

Why China's Economic Reforms Differ, London School of Economics, Development Economics Research Porgramme. CP 25,

Decentralisation and economic reform



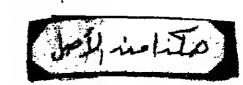
INTERNATIONAL ECONOMIC INDICATORS: BALANCE OF PAYMENTS





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Separatists put faith in Canada poll

By Bernard Simon in Montreal

THE presence of more than 50 Quebec separatists in Canada's House of Commons after the October 25 general alection will give tha independence movement an important lever to sway public opinion in the francophone province, according to the leader of the pro-soveredenty Bloc Openeous

ereignty Bloc Quebecois.

Mr Lucien Bouchard said in an interview with the Financial Times that a referendum on independence would not be held in Quebec for at least two years. But he predicted the BQ's expected success in next week's election would give the separatist cause an advantage which it did not enjoy at the time of the last referendum, in

"It's quite a difference in a referendum campaign to see 75 Quebec members of the House of Commons come down and fight for federalism, and to have 50 to 55 members coming back to Quebec to fight for sovereignty." he said

ereignty," he said.

An opinion poll published over the weekend indicated the BQ remains far ahead of the Liberals and Progressive Conservatives in the provinca, with the support of 52 per cent of decided votors.

of decided voters, in the country as a whole the Liberals, who are now in opposition, have widened their lead over the Conservatives, with 40 per cent and 22 per cent of the vote respectively. The Tories' sputtering campaign received

another setback on Friday when a torrent of complaints forced Prime Minister Kim Campbell to withdraw a TV advertisement which played on the partial facial paralysis of Mr Jean Chrétien, Libaral

The BQ is the federal equivalent of the Parti Quebecois, which has campaigned within Quebec since the late 1950s for a loose form of sovareignty. The Bloc was formed in 1988 by a small group of breakaway Liberal and Conservative MPs angered by the unwillingness of their colleagues to maka more concessions to Quebec during one of Canada's periodic constitutional wrangles.

The success of the party since then owes much to Mr Bouchard, who was a lawyer in the eastern Quehec town of Chicoutimi before entering politics. Prior to forming the BQ he was Canada's ambassador to France and a member of former prime minister Brian Mulroney's cabinet.

Responding to a suggestion that much of the BQ'a support reflects voters' desire for a change after three years of tough economic times, Mr Bouchard acknowledged there was "no definitive evidence" that most Quaheckers supported sovereignty at this stage.

But he ontlined a twopronged strategy to win them over. First, the BQ would show "that sovereignists can be very responsible even in the federal parliament". Second, Mr Bou-



Lucien Bouchard: two-pronged strategy to win over doubters

chard said Quebeckers would come to realise that they would never gain more constitutional powers within the federal systam. "The door has slammed on all reasonable possibility of renewing the constitution." he said.

Mr Bouchard said the separatist movement dld not threaten democracy or foreign

investors' confidence in Quebec. "Everything will have to be done through the damocratic process." He noted Quebec was heading support for the 1999 free trade agreement between Canada and the US. "One of the motivations of the thrust towards sovereignty is the desire to open Quebec to the world."

Michael Holman on a challenge for the Commonwealth

In search of common cause

HE Commonwealth's fox has been shot, its demise underlined hy pictures of a beaming Nelson Mandela and a jubilant President FW De Klerk, joint winners of the Nobel peace prize.

The search for a new quarry begins in Cyprus on Wednesday, when leaders and representatives of 50 nations gather in Limassol for the organisa-

tion's biennial conference.

It will be the first time in more than two decades that South Africa need not dominate the proceedings. How to end apartheid sharply divided the Commonwealth (usually Britain from the rest); it also gave the association a sense of purpose and powar, whather illustry or not

illusory or not.

With sanctions lifted and a general election in the offing, the Commonwealth has to refocus, say diplomats from within its ranks.

Efforts that began in Harare two years ago to find a raison d'etre must produce results this week they warn, or the loose association of states with little in common other than the English language and historical links with Britain will become increasingly irrelevant.

As Australia's proposed move to republican status

illustrates, Commonwealth ties

with the former colonial power are wearing thin. But as one senior British official made clear last week, the reverse applies. In the run-up to Limassol, British diplomats do not conceal their doubts about the wisdom of allocating five days of Prime Minister John Major's time to a conference whose merits "are not entirely self-ev-

ident", as one put it.

Past acrimonious exchanges
over South Africa sanctions, as
far back as the arms-to-Pretoria row in Singapore in 1971,
are readily recalled.

Not even radical change in

Not even radical change in South Africa was enough to lay the sanctions issue to rest in Harare in 1991.

Britain still bears the scars. At least one African high commissioner in London detects irritation and impatience in the speech to the English Speaking Union last week by Mr Douglas Hurd, the British foreign secretary.

The South African issue had "distorted" the Commonwealth, he said.
Since it "is not an organisation with voting rights or inter-

weatth, he said.

Since it "is not an organisation with voting rights or international legal authority, these differences never got us anywhere." It only "convinced many people in Britain that the Commonwealth was an institution for lecturing

THE Commonwealth's with the former colonial power Britain, and its effectiveness fox has been shot, its are wearing thin. But as one suffered as a result".

Commonwealth officials and delegates challenge that view, but none is likely to pursue old scores this week.

Instead they will press for a substantial Commonwealth role in South Africa's April election, assisting in the preparations and monitoring the poll.

Mr Hurd, who pointedly noted that "change lies in the hands of South Africans, not their well-wishers", will want to ensure discussion of this role does not divert attention from a hroader objective for the Commonwealth, say Foreign Office officials.

ther items on tha agenda are important, they acknowledge, such as the state of multilateral trade negotiations, the emergence of a "global humanitarian order", and the environ-

ment and development.

But the conference is not the best arena for action in these areas they argue: what member states can do is to put the Commonwealth bouse in better order. Mr Hurd himself says: "A new task is staring it in the face. Good govarnance and democracy cannot be imposed by imperial means." It requires

a combination of persuasion and reward, and "expressions of displeasure" if democracy is undermined. "These are all characteristics of the Commonwealth, and that is where its task for the nineties could lie."

Chief Emeka Anyaoku, the Commonwealth secretary-general, would not disagree. Writing in tha Commonwealth's annual report, published this month, he sees the 1991 Harare communique as a renewal of a commitment to "fundamental political values: democracy, the rule of law, just and honest government and human rights."

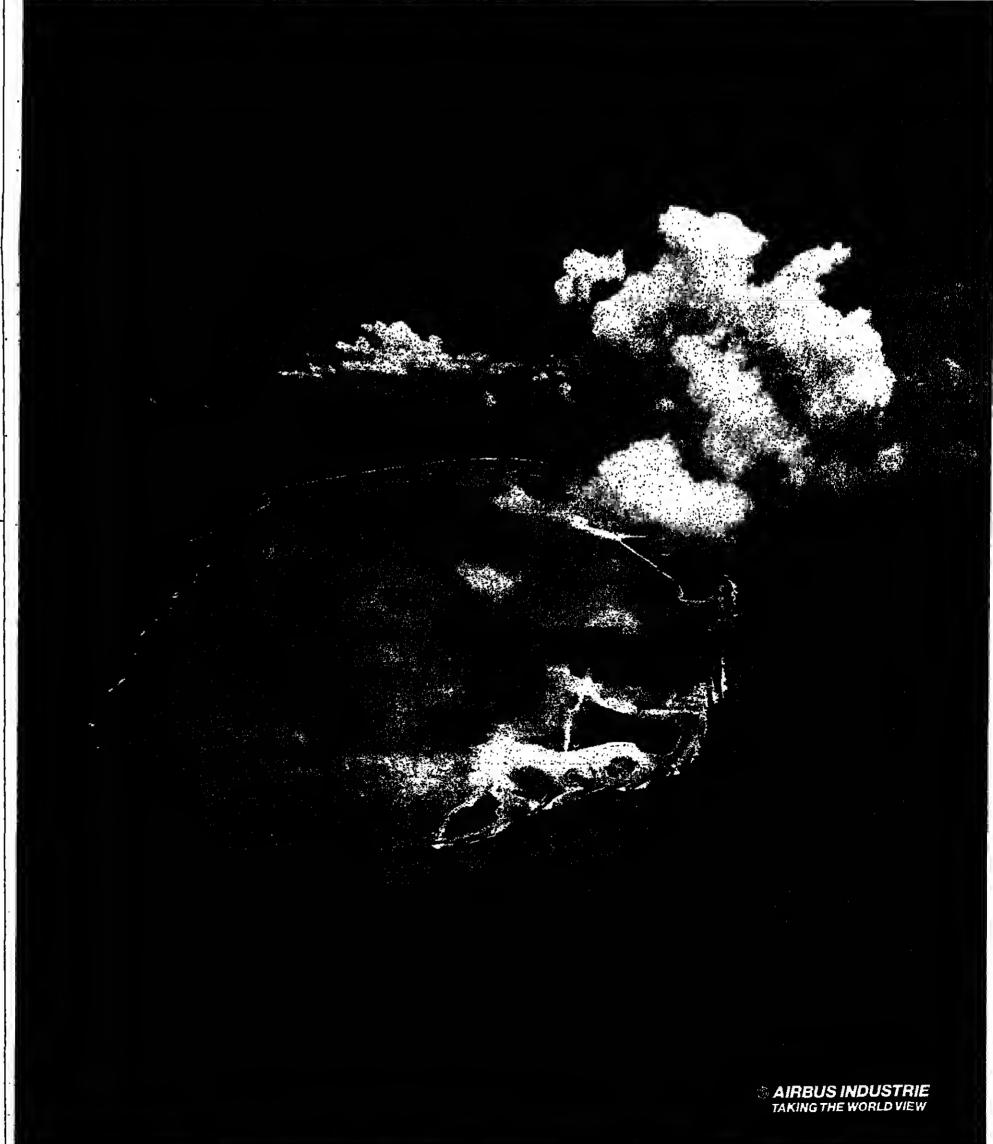
In the intervening two years there has been change for the better, and Commonwealth observers have monitored the transition to multi-party states in Kenya, Ghana and elsewhere

where.
Critics, however, note the continued reluctance to appoint a Commonwealth group to monitor and publicise buman rights abuses in member states and the fact that two governments which bave flouted democracy - Nigeria and Sierra Leone - will take their seats on Wednesday.

The challenge at Cyprus will be to close the wide gap that remains between the Harare principles and their practice.

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Cosatu's strike call shuns ANC

By Philip Gawith In Johannesburg

THE Congress of South African Trade Unions (Cosatu), the country's largest union grouping, has called a national strike for November 15 to protest against the treatment of workers' rights in the draft constitu-

tion.

The call surprised political observers as it did not appear to have been discussed with Cosatu's partners, the African National Congress (ANC) and South African Communist Party. It would seem to indicate a determination by Cosatu, with 1.2m paid-up members, to continue as an independent voice for workers regardless of its political ties.

Mr Sam Shilowa, the group's general secretary, said at the weekend the strike would go ahead unless negotiators at the democracy talks agreed to removed a clause in the constitution guaranteeing the tenure of civil servants after the election next April, and removed a

clause from the interim bill of rights enabling employers to lock out striking workers.

Cosatu believes that entrenching the positions of existing civil servants – aimed at quelling the fears of largely white incumbents – will impede democratisation of the civil service. Namibia adopted a similar policy at independence in 1990 and the large bureaucracy is proving an unmanageable fiscal burden.

Mr Shilowa said the strike had been scheduled to be held a week before the planned special sitting of parliament on November 22 which would formally pass the constitution. The talks, however, remain far from complete with important issues like regional powers, and how a government of national unity will function, undecided. The conservative Freedom Alliance is also continuing to stand outside the main negotiating process.

main negotiating process.

Mr Shilowa said the length of the strike bad still to be decided.

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FT Surveys

CBI attacks EC 'red tape'

By Michael Cassell, **Business Correspondent**

THE Confederation of British Industry has stepped up its opposition to "the tide of increasing EC regulation" which it claims is seriously damaging European competi-

In its response to the European Commission's white paper Growth, Competitiveness and Employment, the CBI today calls for a package of measures to improve European economic performance in the face of intensifying competition from newly-industrialised

Publication of the CBI's

The Lady's

for turning

THERE ie a revealing

comment in the early pages of Lady Thatcher's memoirs, The Downing Street Years, which is finally published today after

being the subject of moch

She drew a different lesson

from the second wurld war

than many of her contempo-raries - British or continental,

left or right. Lady Thatcher

concluded that the war demon-

strated the need for etrong

nation-states. Her hostility to

the European Community was

there from the start: some of it extends to personal dislike of

Detachment is not the

book's strong point. It is not

meant to be a mark of disre-

spect to say that the volume if

most reminds one of is Harold

Wilson's memoirs of his pre-

mlership, though without some of Wilson's excellent set-

pieces, Wilson, like Thatcher,

wrote rapidly after leaving

Downing Street. The impres-

slon left of his stewardship

was of moving from one meet-

ing, one subject, one crisis to

another, Policles were gov-

Lady Thatcher likes to think

it was different in her period;

she has not demonstrated it.

Possibly this is because the

formula of the book is wrong.

After the mildly personal

introdoction, she simply rat-

tles on in more or less chrono-

logical order - from steel strike to coal strike through

whatever happened in

The result is that practically

every episode is told in trun-

cated fashion, frequently omit-

ting key details such as who gave advice. Many civil ser-

vants, to whom Lady Thatcher

has reason to be grateful,

receive no mention. Thus the

tone becomes one uf self-vindi-

cation: the message that she

was betrayed grows stronger as the book goes on.

Not all her comments are

entirely accurate. Sir Leon

Brittan might complain that

he has been treated less than

generously. The prime minis-

ter etrongly suggested there would be an early invitation to

return to the cabinet after

Westland. The suggestion has

been written ont of her his-

tory. But many of the most

savage flashes are reserved for

Lord Howe and, to a lesser

extent, Lord Lawson towards

Other omissions may stem

from pressure of time. When

her impressions of foreign

ieaders come, as on Jimmy

Carter, they can be perceptive,

hnt are desperately sbort. About Giulio Andreotti she is

not only short but plain rude.

The foreign hero is Ronald

Reagan, whom Lady Thatcher thinks Britain falled to appre-

on her first 50 years. It should be more interesting because

less is known about the sub-

ject. One hopes that it will

also be more relaxed and less

Another volume is pro

the end of the book.

erned by events.

those who think otherwise.

By Malcolm Rutherford

recent legal debate.

pages are

finally

views follows last week's suc- the world". He says that, cess by the British government in winning a six-year opt-out from EC legislation intended to protect young people at work. British ministers later predicted the move could encourage multinational companies relocete European

operations in the UK. According to the CBI, EC policy initiatives must not be allowed to make Europe less competitive by adding hurdens on employers. EC regulations, it adds, should aim at simplifying procedures and reducing compliance costs.

Mr Howard Davies, CBI president, calls on the EC commission to "change the way it sees

despite the white paper, his organisation remains to be be convinced that there has been a change of heart in Brussels. Mr Davis adds: "The latest noises on social policy suggest

NEWS: UK

that there has not. That is why we are setting out clearly the scale of the problem".

The CBI's memorandum to M Jacques Delors, president of the European Commission,

ses that the EC has lost one-fifth of its share of world trade since 1980. It claims the position will continue to deteri-orate without action to reduce costs and bureaucracy.

The employers' organisation points to rapidly rising labour

Thirty-one people were arrested on Saturday after violent clashes at a demonstration in south-east London to protest against racism. Sixty people were injured, including 19 police officers, after

police diverted the march to stop protesters reaching a bookshop run by the far-right British

National Party, Police and organisers later blamed each other for the violence.

rural areas.

Privatisation of Post

Office may be shelved

regulated, privatised Royal

Mail could continue to deliver

letters to every address in the

UK without charging more in

However, many ministers

fear that privatisation could provoke another unwelcome

split in the Conservative party.

similar to the row over the

hreak-up of British Rail. The

government's slim majority

would only give it a majority

of about one on the committee stage of any bill privatising the

Post Office, which is regarded as too small to ensure success.

came when Mr John Major

sacked the junior industry

minister Mr Edward Leigh, a

strong supporter of privatisa-

tion, in his spring reshuffle.
The DTI is considering

options to give the Post Office

greater commercial freedom in

the public sector while introdu-

cing greater competition.

The first sign of a backtrack

hut emphasises that productivity growth has been inferior to its main competitors. The CBI says that high public spending and taxation within the EC have inhibited the community's ability to respond effectively to competition.

The memorandum seeks an early Gatt agreement, further development of the single market, mure flexible labour markets and the lowering of the public spending and taxation. combined with a ban on any new taxes on business. All EC governments, it adds, should set a long-term goal of cutting public spending to below 40 per cent of gross domestic product.

Britain in brief



UK recovery 'depends on Europe'

Britain's faltering economic recovery will remain patchy until at least 1995, unless continental Europe starts to pull out of slump, top economists warned yesterday.

Low economic growth on the Continent will limit UK companies' ability to export and will hold back the upturn.

The warning from Oxford **Economic Forecasting comes** after figures showing a fall in manufacturing untput and a rise in inflation although there was a drop in unemployment.

This week will see new figures on retail sales, money supply, trade and the level of

government debt.
The weakness of the EC economies bnrts the UK because around 67 per cent of British exports go to the Con-

Export drop offset at home

A sharp decline in exports almost entirely due to a downturn in western Europe - has been offset hy improving home markets, according to the third-quarter survey of the nine north-west Eogland chambers of commerce.

The fragility of upturn is shown by only about 20 per cent of companies working at full capacity. The proportion of those working at three-quarters capacity improved, hut only marginally, from 74 per

cent to 76 per cent. The survey - of 641 companies employing more than 100,000 people – Is significant because the north-west is the UK's biggest economic contributor after south-east England.

Effort to boost language skills

The UK Department of Trade and Industry has launched a campaign to improve British

after a survey found that a third of small exporting British companies had missed opportunities due to linguistle

barriers. Only four per cent of Dutch companies had missed out for the same reason, while in Spain, Germany and Denmark the figures were 18, 15 and 14 per cent respectively, according to research by the Centre for Information on Language Teaching and Research.

Free local calls woo phone users

Around half of all telephone users in the UK would change their telephone company if they were offered free local calls, eccording to a Gallup survey carried out for the major cahle television compa-

The offer of free local calls was so strong a motivator that among the respondents 48 per cent of cable TV subscribers. 50 per cent of a national sample without cable and even 40 per cent of those who already heve a cable telephone said they would move to get such a

Smith set to reshuffle team

Mr John Smith, leader of the opposition Labour party, is this week expected to reshuffle his shadow cahinet team after the results of the parliamentary party's annual shadow cabinet election are published on Wednesday.

Mr John Prescott, the longserving shadow transport secretary, is being widely tipped for promotion to a key economic post, in a move that would be seen as a setback for

the party's 'modernisers.' The 18 MPs securing the most votes in this week's ballot are guaranteed a shadow cabinet place, but Mr Smith has full authority in the aliocation of portfolios.

Insurer seeks early retirees

NCM, the Dutch insurance group that acquired the Export Credit Guarantee Department's short-term credit Insurance business after it was privatised two and a half years ago, is seeking 70 volunteers among Its 550-strong workforce in Britain to sign up for an early exporters' language skills retirement package.

Cash handling 'costs Britain £4.5bn a year'

By John Gapper, Banking Editor

IT COSTS the British £800m a year in lost interest income to carry around banknotee and coins in wallets and handbags. according to the first detailed study for 20 years of the costs of circulating cash around the

The study estimates it costs

£4.5bn a year to lubricate the £250bn flow of cash payments made in Britain each year. But the study indicates that despite the costs, Britain's cash handling system is cheaper than that of elther

France or Germany. According to the report, individuals in the UK pay £800m, with a further £800m from shops and business. £700m from the Post Office, and

£2.2bn by the Bank of England and commercial banks.
The study, which was carried out by the Boston Consulting Group for De La Rue, the banknote printers, estimates

that the cost of cash is equiva-lent to £210 a year in lost interest income and handling expenses for each of Britain'e 22m households Each household keeps an

average of £460 in cash at any one time, it estimates.

The figure is thought to be so high because it is artificially boosted by the "black ecnnomy" of unregistered and criminal enterprises which deal largely in cash. The cost of the cash han-

dling system is found to have quadrupled since the last in-depth analysis in 1973, when it was estimated at £540m at Handling cash now costs

each commercial bank hetween £200m and £300m a year. One reason for the rapid escalation in costs of cash han-

dling is that automated teller machines (ATMs) installed over the past two decades have made it easier to obtain cash, and so increased the strain on the cash distribution system, Mr Simon Farmbrough, a

Boston Consulting Group vice-president, seid it was unclear how much lower the costs of cash handling could be, but there is potential "to drive down costs quite signifi-

He said the finding that the average household held £460 in cash had been checked with financial institutions because eppeared so high.
"It is clear that some of that

money ie being carried around in suitcases," he said.

Drugs budget savings sought

By David Owen

By Roland Rudd

THE DEPARTMENT of Trade

and Industry is to recommend that the Post Office should not be privatised, despite the con-

clusions of its advisers who believe a sale would not jeop-

ardise the nationwide delivery

The recommendation to

leave the Royal Mail - the

letters division – and Post

Office Counters in the public

mercial freedom will be put to

Mr Michael Heseltine, secre-

tary of state for trade and

industry, when he returns to

work, possibly this week. He is

not expected to overrule the

department's recommendation.

already announced, will still go

The sale of Parcelforce,

Kleinwort Benson, the gov-

ernment's adviser on the

future of the service, believes a

sector but with greater com-

THE government is targeting the £3.4bn National Health Service drugs budget in its efforts to meet public spending targets for the next three years.

Ministers see the fastgrowing NHS drugs bill as a orime area for savings.

The government has e manifesto commitment to raise year by year the "level of real resources" committed to the NHS, but ministers privately edmit that the drive to reduce the £50bn public sector borrowing requirement means this year's increase is likely to be

The government has also said that savings generated

through improved efficiency will be ploughed back into the

service. Earlier this year, it offered the drugs industry a new five-year pricing agreement for pharmaceuticals including a 2.5 per cent cut in prices for

Most drugs groups - some of whom had feared price cuts of np to 7 per cent - greeted the proposals with relief. The NHS drugs bill grew last year by 14

Mr David Blunkett, shadow health secretary, yesterday accused the government of using "sleight of hand" to give the impression it was meeting its election spending pledges

He said the government was "using efficiency targets as a way of introducing cuts in the NHS, but is offering the money back as though it is edditional He said the government was

Although Mr Bill Cockburn, Post Office chief executive,

believes the future ownership

of the corporation is up to the

government, he has called on

ministers to cut it loose "from

the stifling cash book culture of the public sector".

Last year the Post Office con-

tributed £60m in cash to the

Treasury. This year its target

contribution to the Treasury

has risen to £181m, which the

Post Office has described as a

• The Ulster Unionist Party

last night signalled that the

government would have to

work hard to secure its help in

getting rail privatisation pro-

posals through the House of

Commons, David Owen writes.

Mr William Ross, the party's chief whip, said the party had "quite a number of concerns"

about the bill, although it was

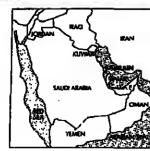
too early to say how its nine

daunting challenge.

"introducing an accountancy sleight of hand which counts private-sector investment as though it were additional NHS spending. No one should be misled into believing that tha government will fulfil its pledge to increase health service spending."
Talks aimed at cetting

departmental budgets until 1996-97 are to continue this week, with ministers aiming to propose a settlement to cabinet efore the end of the month.

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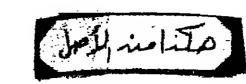
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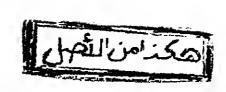
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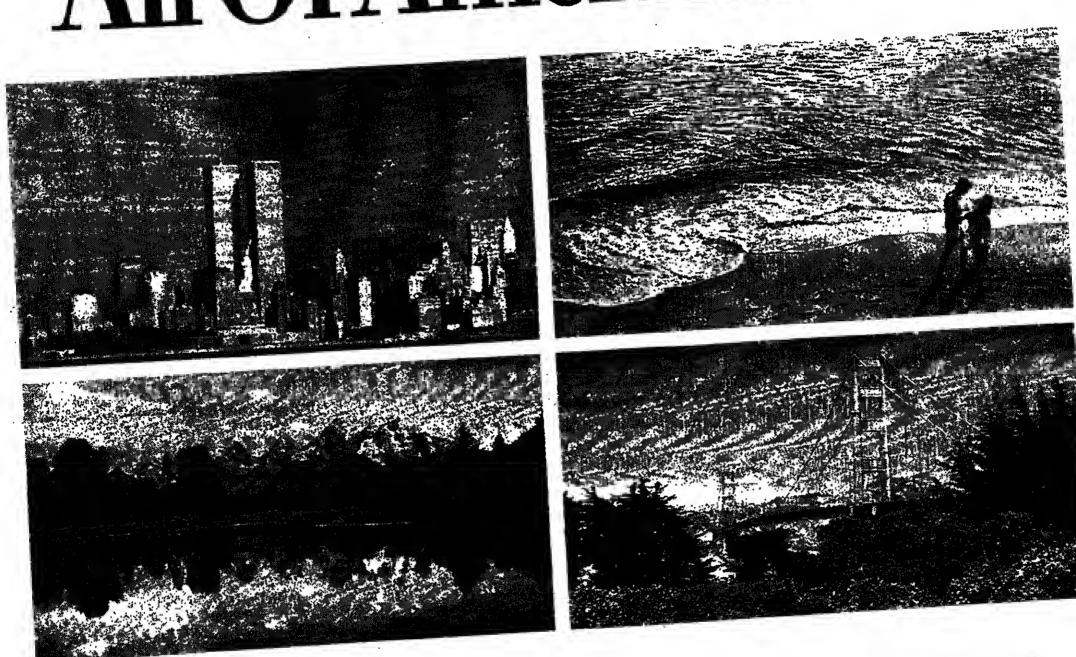
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The regional business of TRAFALGAR HOUSE CON-STRUCTION has secured two new contracts valued at £13m.

The largest is being carried out by the Milton Keynes office and involves a £7.5m two and three-storey steel frame extension to the western end of the Milton Keynes Shopping Cen-tre for PosTel Property Services. It will comprise a new store for Marks & Spencer of about 135,000 sq ft, 16 smaller sbops, new entrance and cross mall.

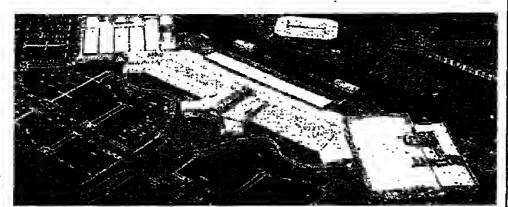
The development has been designed by architects Planning Design Development. Trafalgar House Construction bas already carried out an enabling works contract at the site using its in-house ground engineering company, Cementation Piling & Foundations, to construct a basement retaining wall. The whole development is scheduled for completion by Christmas 1994.

The Boston Spa office is working on a £5.5m single carriageway by-pass around the city of Ripon in North Yorkshire. Included in the 2.9km road are two roundabouts, a single-span canal bridge, retaining walls, widening a dis-used railway bridge and a city centre link road.

Store job for Tilbury

TILBURY DOUGLAS GON STRUCTION has been awarded a £6.5m contract to build a superstore for Wm. Morrison in Warrington, The 69,000 sq ft superstore is to be built by the company's north-west regional office. The site at Wilderspool Causeway, previously occupied by Greenhall Whitley Brewery, is of historic interest, and archaeological concerns will have to be considered, particularly when excavating founda-tions and external pavings. The contract Includes the fit-

ting out of the store and extensive mechanical and electrical



Bovis Construction (Scotland) and Wimpey Construction (Scotland) handed over the £68m. 300,000 sq ft Gyle Shopping Centre (above) in Edinburgh on schedule, ready for its October opening. Almost 100 per cent let, the complex

provides 63 multiple occupancy units on the ground floor with anchor stores Marks and encer and Safeway. The 420-seat food court and bistro with creche facilities are located on the upper level above the main entrance.

Education work starts

Nearly £9m worth of new contracts, mostly in the education field, have been won by Mowlem Sonth Wales of Cardiff and Llanelli, part of John Mowlem Construction.

In the Rhondda valley, Mowlem has won a £3.14m contract from Mid Glamorgan County Council education committee, to replace fire-damaged classrooms at Ferndale Comprehensive School.

awarded a £1.5m contract to a fully glazed elevation to the

with eight bedrooms, each with en suite shower room, toilet and wash basin. Mowlem has also won work for a new £850,000 visitors' cen-tre for Dyfed Wildlife Trust,

design and build two accommo-

dation blocks for 144 students.

The blocks will contain flats

Cardigan. The contract involves a three-storey timber and steel framed building with walls of At Trinity College, Carmar-then, Mowlem has been cedar shingle roof covering and

Schools award £6.7m projects

GARDINER & THEOBALD bas tional classrooms, a library started work on two schools projects with a combined value of £6.75m.

Work involves the refurbishment and extension of University College School in Hamp-stead on behalf of the school development committee. Gardiner & Theobald Management Services is acting as project manager and Gardiner & Theobald is providing cost management advice.

The school is a listed building and the project is being constructed in two phases. Phase one involves lowering the level of the playground to create windows for the new classrooms at basement level. A changing block and sports hall will also be built.

Phase two provides addi-

and a music centre. Phase two is due to begin at Christmas. Gardiner & Theobald has also been appointed by Haberdashers Aske's Girls

School in Elstree, Hertford-

shire to build a new £750,000

music and art centre.

Gary Griffiths, partner at Gardiner & Theobald said: "The development of the design to this point involved the detailed participation of the heads of department. The demands of the national curriculum call for additional space and as the design shows students will soon be able to study in an atmosphere even more suitable for excellence."

Construction work on the project is due to start in spring

work is expected by Christmas. Other contracts recently awarded include alterations to Lloyda Bank, Bridgend (£580,000); a new Job Centre in Port Talbot (£400,000); the design and construction of workshop units at Lamby Way (phase II) for Gardiff City Council (£380,000), the refurbishment of National Westminster Bank at Pontypridd (£180,000) and improvements to

Wedal Road, Cardiff for Cardiff

City Council (£170,000). Wimpey lands a runway

WIMPEY MINERALS USA INC has been awarded a \$4.8m (£3.17m) contract from the Port Authority of Naw York and New Jersey for runway resurfacing and maintenance at Newark International Airport. Work involves the milling down and resurfacing of one of the New Jersey airport's north-south runways and its 12 intersecting taxiways. Extensive electrical work on the lighting

system is also included. Some 1,800 tonnes of special mixes and 44,000 tonnes of bltuminous concrete surface will be used in the reconstruction of the runway. Surface grades will be calculated using the latest laser equipment mounted on the paving

Volex goes to Dobson Park for its chief executive ... again

pany, has found a replacement for Howard Poulson, its chief executive who was headhunted by Farnell Electronics in May. He is Oliver Chapple (right), until the beginning of August chief executive of Dobson Park Industries, the industrial electronics and mining group. Poulson himself was the main board director responsible for the industrial electronics divi-

moving to Volex. According to Bill Goodall, Volex chairman, Poulson is "a good strategic thinker"; he

sion of Dobson Park before

Volex, the electrical describes his replacement as interconnection products com- having "considerable UK and overseas experience which has been both at the operational and strategic level".

Ken Hooper, the finance director, adds that Volex's strategy remains the same as it had done under Poulson, butthat this year was one of consolidation and settling in the the group's recent acquisitions, particularly Icontec and Com-ponent Manufacturing Systems in the US, and Mayor, the 60 per cent-owned Singaporebased maker of data and power cord assemblies. Ha says the Volex board had been "disap-

Electronic switches

Junkichi (Jim) Katayama has been appointed md of PANASONIC UK; he succeeds Kirk Nakamura who has been promoted to become director responsible for the Americas at Matsushita Electric

Industrial. Chris French, formerly director of consultancy and training at BIS, has been appointed md of ALEXANDER
PROUDFOOT's information technology and engineering division worldwide. James Champy (right), co-author of Reengineering the

Corporation and formerly

chairman and ceo of CSC

Index, has been appointed

president of CSC's commercial consulting group. David Robinson, president of CSC Index, assumes Champy's former executive



responsibilities. David Townsend has been appointed a member of the UK management board of DIGITAL EQUIPMENT CO as general manager personal computer business unit for the UK and Ireland. As general manager of Perrin Systems he became a director of P&P when it bought Perrin and

pointed" when Poulson left,

but appreciated that he had moved to a group "five times

Before the Dobson Park post,

Chapple was group director of business development at T&N.

and before that spent 20 years

at Varity Corporation.

since 1992 has been a consultant. ■ Steve Swift, md of DUN & BRADSTREET SOFTWARE UK, has been appointed senior vice-president of European operations; he succeeds Fred Newall who becomes senior vice-president customer operations, and is succeeded by Bob Flury, vice-president and general manager central

Do It All, the DIY chain owned jointly by Boots and W.H. Smith, has appointed David Clayton-Smith as merketing and merchandise director. He succeeds Alan Bowe who becomes business development director within the

Clayton-Smith, 39, joins from Courage, part of the Fosters Brewing Group, where he has been group marketing director. He starts his new job next Monday and will be responsible for corporate marketing, bnying and product development.

The results of a strategic review of Do It Ail's operations are due to be unveiled before Christmas. Glayton-Smith will undoubtedly be at the forefront of Do-It All's future operations; the business has recently been struggling, with the past rear seeing a trading loss and decline in market share.

Graham Hiscocks, formerly a director of R.J. Reynolds Tobacco(UK), has been appointed finance director of WATERMAN PARTNERSHIP

HOLDINGS. Peter McGuigan, chief executive of Speedo, has been appointed to the main PENTLAND GROUP board. John Procter, formerly a regional md at McCarthy & Stone and before that group md of G-Plan, bas been appointed chief executive of Stag Furniture Holdings, part of SPRING RAM, on the retirement of George Ella, who will become a non-executive director of Stag and of Regency Doors, another Spring Ram subsidiary. Roger Blaney. Stag's marketing director, has

MacDonald to head CWS funeral services

Alexander MacDonald has been made general manager of the Co-operative Wholesale Society funeral services group which, with a £60m annual turnover, now claims to be the largest wholly-owned UK funeral director. Some 640,000 funerals take place each year in the UK. 55,000 of them conducted by the CWS funeral ser-

vices group.
MacDonald, 50, had been acting general manager of the group since May, baving moved from being the group's operations manager for Scotland and Northern Ireland. MacDonald joined the CWS

funeral services group 10 years ago on secondment from the Industrial Society, the charitable status organisation which serves to provide managerial expertise and advice to its membership. Before joining CWS, MacDonald had a variety of management stints with companies including Distillers. Courtaulds and Cape Indus-

The CWS funeral services group is based in Glasgow, which MacDonald says reflects the historical development of the co-operative society funeral business.

the Scottish funeral business is cornered by co-operative societies - including the CWS compared with 25 per cent in the rest of the UK. There are 59 co-operative societies in the UK today, 25 of which operate their own funeral busines independent from that of the

MacDonald says that it is not really a macabre business but is one of the more important service industries: "You are providing a service to families at a time of considerable emotional stress, and It's only through the quality of that ser-Even today, 40 per cent of vice that the business thrives."





Can you turn up the heat and put a

freeze on costs, too?

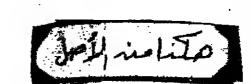
cess, which consumes massive electrodes, wears down furnace linings and can cause hot-spots and break-throughs.

Melting down steel scrap is a tough, high-temperature pro-

Energy costs are high and maintenance becomes a full-time, expensive headache. That's why Nueva Montaña Quijano, a major Spanish steelmaker, commissioned ABB to implement a new process control system for its electric arc furnace in Santander. In its first year of operation, increased efficiency produced an energy saving of 5%. At the same time electrode consumption decreased 14% and breakage by 50%, while lining wear went down 8%, drastically reducing maintenance costs.

ABB also serves the steel industry with weighing systems, arc furnaces, electromagnetic stirrers and brakes, as well as process control and electrification systems for the entire mill. As a leader in electrical engineering for industry and transportation, and in the generation, transmission and distribution of power, ABB is committed to industrial and ecological efficiency worldwide. We transfer know-how across borders with ease. But in each country, ABB operations are local and flexible. That means we can help our customers respond swiftly and surely to technological challenges which stretch the limits of the possible. Like

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heating up production while cooling down costs.

Communication of the second se



ECONOMICS

French interest rates under pressure

A POOR figure for French manufacturing output in July and August this week, mey City economists compiled by MMS International, the financial information company. intensify pressure on the French authorities to relax

The decline in industrial production this year has been the fastest for 10 years, yet the government has held interest rates high to protect the value of the franc.

Falls in the car and household goods sectors have been mainly responsible for the sharp drop in overall output, and in recent months there have been signs that the deteri-oration of the two sectors is slowing. None the less, a poor figure will reinforce the case for monetary easing.

Similarly significant is this week's release of German money supply figures. The consensus puts the annualised rise of M3 in September at about 7 per cent. In August, M3 rose an annuelieed 7.2 per cent, boosted by the Bundesbank's foreign exchange interventions during the European exchange rate mechanism crisis of late July, Since then, the central bank appears to have made good progress in sterilising inflows of D-Marks by keeping liquidity tight. Many analysts believe M3 will come back towards the upper end of its 4.5 to 6.5 per cent target range by

the end of the year. Other highlights of the week follow, Figures in brackets are the median of forecasts from Council in Brighton.

Today: Japan, August industrial production, shipments; September trede balance

UK, Parliament returns from eummer recess, CBI monthly distributive trades survey; September PSBR (£5,3bn). Canada, August manufactur-

ing new orders (up 1.5 per cent), manufacturing shipments (up 1.8 per cent), building permits (down 1.9 per

Australia, August housing (down 5.25 per cent). Sweden, September unemployment rate (9.6 per cent). Belgium, national bank governor presents report on social

Portugal, Leon Brittan talks on trade links between Europe and US in light of GATT trade talks.

Tomorrow: US. Greenspan and FOMC voting members testify before House Banking on Fed accountability; September housing starts (1.3m), building permits; September Johnson Redbook week ending October 16.

Japan, September money supply M2+CD (up 2 per cent on year), broad liquidity. Germany, Bundesbank Octo-

ber monthly report released. UK, Chancellor speaks at annual conference of Netional Housing and Town Planning France . . ting output index. 1985 = 100

Sweden, September trade balance (SKr3.7bn surplus). Wednesday: France, July/ August industrial production (down 0.1 per cent on month, down 4.1 per cent on year). UK, September retail sales (up 0.3 per cent on month, up

2.9 per cent on year), M4 (up 0.3 per cent on month, up 4.1 per cent on year), M4 lending (up £1.8bn), bank lending fig-ures from major banking groups, building society net new commitments (£2.5bn). Australia, September motor vehicles registrations (down 10 per cent) New Zealand, Q2 GDP.

Hong Kong, Sino-UK talks. Thursday: US, initial claims week ending October 16 (333,000); state benefits w/s October 9; money supply data for w/e October 11; October Philadelphia Fed Index.

Germany, Bundesbank council meeting; Chancellor Kohl makes formal statement on

economic policy in parliament. UK, September non-EC trade (£625m deficit); British Chambers of Commerce quarterly

economic survey. Canada, September CPI (up 0.2 per cent on month, up 2 per cent on year), excluding food and energy (up 2 per cent on year), retail sales (up 0.2 per cent on month). Australia, August manufac-

turing prices, import prices.
Friday: US, September Treasury budget (up \$10bn). Japan, August PCE. UK, preliminary Q3 GDP (up 0.5 per cent on quarter, up 2

per cent on year).

During the week: Germany, September PPI (flat on month, down 0.3 per cent on year), M3 (up 6.9 per cent).

Italy, August industrial production (down 4.2 per cent on year), WPI (up 6 per cent on year), PPI (up 4.3 per cent on year); September bank lending (up 5.9 per cent), M2 (up 7.2 per cent on year); October CPI cities (up 4.1 per cent on

Spain, August PPI (up 2.5 per cent on year); September bud-get balance (£250bn deficit). Netherlands, September unemployment rate (5.3 per

Finland, September trade balance (FM2.1bn surplus).

Emma Tucker

and reductions in civilian air-

cessing and distribution group, is expected on Thursday to report e drop in pre-tax profits to £49m (£52m) in the year to August, Mr Stephen Walls replaced the group's founder, Mr Tony Millar, as chairman last year after a traumatic year for the former stock market fewerities.

uk çompanies

THE WEEK AHEAD

TODAY COMPANY MEETINGS: Armour Tst., 100 Liverpool Street, E.C., 11.00 Ferromet Grp., Cricketers Club of London, 71 Blandford Street, W., Mid Wynd Int. Inv. Tst., 1 Rutland

Court, Edinburgh, 11.00 BOARD MEETINGS: Five Caks invs. London & Strathclyde Lowland Inv. Co. MY Hidgs.

Abtrust New Thal Inv. Tst.

Anagen Boot (Henry) Venturi Inv. Tst. TOMORROW COMPANY MEETINGS:
Ragian Property Tst., Butchers'
Hall, Bartholomew Close, E.C., 10.00
SWIP Grp., The Registry, Royal Mint
Court, E.C., 10.30

Union Court, 20 Farringdon Road, E.C., 10.00 BOARD MEETINGS:

Hoare Go III WEDNESDAY OCTOBER 20 ssc Grp., ironmongers' Hai Shaftesbury Place, Aldersgate, E.C., British Data Mingmt., Founders' Half, 1 Cloth Fair, E.C., 11.30 Foreign & Colonial High Inc. Tat., Exchange House, Primrose Street, Smith (W.H.), Milibank Tower, S.W., 11.30 Finals: Air London Throgmorton 1000 Smallest Co's ibert Fis Lillers Tst., 155 Bishopsgate, E.C., 12.30 BOARD MEETINGS: Airflow Streamlines Chesterfield Props. Ferguson Intl. Hidgs.

Alexandra Workwear Berry Birch & Noble British American Film English National Inv. Ferning Euro Fiedgling Forward Tech. Ind. ck Europa Govett Small Co's. RIT Capital Partners we & Prosper Linked St. James's Piace Cap. Wensum Co. III THURSDAY OCTOBER 21 COMPANY MEETINGS: Close Brothers, Stationers Hait, Ave Maria Lane, E.C., 12.00 Eiblef, Prince of Wales Lane, Birmingham, 11.00 BOARD MEETINGS: Tweefontein United Col.

New Throgmorton Tat. Ocean Wilsons Parkland Textile FRIDAY OCTOBER 22 COMPANY MEETINGS:
Black (Peter), The Brewery, Chiswell
Street, E.C., 10.30
Haynes Publishing, Conference Centre, Haynes Sparkford Motor Museum, Sparkford, Somerset, 1.00 Industrial Control Service Baddow, Essex, 11.00 Symonds Eng., Ware Most House, Ware, Herts 11 00 Finals: Bridport-Gundry Usborne Gresham House Nokia Corp. Value & Income Tst. Company meetings are ennual general meetings unless otherwis stated.

Please note: Reports and accounts rease note: reports and account are not normally available until approximately six weeks after the board meeting to approve the preliminary results. Fleming Cont. Europea

2.667p British Mohair 1.4p

Church & Co. 3o

EBC 1.750

Rate Nts. 2003 \$279.58

Burnfield 1.65p Chemical Banking Corp. Sub. Fitg.

DIVIDEND & INTEREST PAYMENTS

Buight (A.F.) Edinburgh In

erome (S.)

Castle Comms

Cooper (F.) Smiths Inds.

UDO Hidgs.

Edinburgh inv. Tet. Govett Örlental inv. Tst.

Alled London Properties 534% Cv. Cm. Rd. Pf. 2.875p Echlin \$0.175 Energie Beheer Nederland B% Nts. 1990 due 1995 \$900 Forte 10.5% Mtg. Db. 1991/1996 £4.9192 Gaskell 1.5p IMI 4.2p

Jasmine Tranche B Fitg. Rate Sec. Nts. 2003 Y1,716,458 Kleinwort Benson 6p Kuala Lumpar Kepong M\$0.05 Kyushu Electric Power Co. 10.25% 2001 C\$102.50

LGW 1.6p McAlpins (Alfred) 3p Mori Selki Co. 5.65% 1998 Y585,000 National Westminster Bank B% Non-Cm. Pf, Series A 4.5p Do. Non-Crn, Dollar Pf, Series B \$0.627083 Do, Non-Cm. Pf, Series A \$0.532 Nova Scotia (Province of) 11%% Ln, 2019 25.875

Persimmon 2.8p State Bank of New South Wales 11% Nts. 1995 A\$110 Do. 714% Yen-Linked Nts. 1993 A\$7,250

STB Finance Cayman Gtd, Sub. Fix/Fitg, Plate Tranche A Nts, 2003 \$2,864.58 Texas Instruments \$0.18 United Kingdom 91/2% Cv. 2005

£4.75 TOMORROW Adecene 3.2p

English & Scottish Investors 0.5p Export-Import Bank of Japan 10%% Gtd. 1995 Ecu106.25 B.B.L. Intl. Gtd. Fitg. Rate Nts. 1999 BZW Convertible Inv. Tst. 3.3p General Electric Co. ADR \$0.142 Howard 0.5p London Intl. ADR \$0.616 Do, Lonrho ADR \$0.042 Pendragon 2.4p Practical Inv. Co. 2.49p THORN EMI AOR \$0.4398 Wells Fargo & Co. Fitg. Rate Sub. Nts. 1997 \$91.04 M WEDNESDAY OCTOBER 20 Boddington 2.86p Candover Invs. 3.95p Dixons Finance Gtd. Fitg. Rate Nts.

1997 \$2,085.10 General Motors Acceptance Corp. of Canada 9¼96 Nts. 1993 C\$462.50 Islington Corp. 11.99 Rd. 2017 \$5.95 Japan Development Bank 95/4% Gtd. Nts. 1993 \$481.25 M & G Income Inv. Tst. Income Shrs.

Do. Geared Units 1p Do. Package Units 1p
Netional Express 2.5p
Northern Rock Bidg. Society Fitg.
Rata Nts. 1996 £155.96
Poliphand (C.P.) Co. (Bermuda Reg.) Do. (Hong Kong Reg.) HK\$0.03 Do. (UK Reg.) \$0.00384

SWP 0.2p Wilson (Connolly) 1.27p III THURSDAY OCTOBER 21 Barclays Bank Undated Fitg. Rate Primary Cap. Nts. Series 3 £4,135.27

Gtd. Undated Cap. Nts. \$171.56 Culver 0.11p Foreign & Colonial High Income Tst. Latin American Extra Yield Fund Unit \$0.31 Leeds Permanent Fitg. Rate Nts. Maleysia Fitg. Rate Nts. 2015 \$266.88 National Westminster Bank Undated Var. Rate Nts. \$1,035 Nationwide Bidg. Society Fitg. Rate Nts. 1998 277.98 Northern Rock Bldg. Society Fitg. Rate Nts. 1995 277.98 Osterreichische Kontrollbank 71/4% Dual Currency Yen/\$ Gtd. Nts. 1996 Do. Non-Vig. 4p Serco 5.3p Standard Chartered 7.5p 3l Grp. Fitg. Rate Nts. 1994 £77.98 Throgmorton 1000 Smallest Co's Tst. 2.5p TSB 10%1/4 Sub, Ln. 2008 5.3125p

United Friendly 5-5p
Do. B (Res, Vig.) 5-5p
United Kingdom 4%% Index-Linked
Trees, 2004 52-2391
Medical Efficies 9 Wholesale Fittings 8.47p IN FRIDAY OCTOBER 22

English & Caledonian Inv. 2.75p Fosters Brewing A\$0.0325 Heywood Williams 4.5p Holl (Joseph) 11p Home Counties Newspapers 2p INVESCO 1p Matthews (Bernard) 1.1p MBE Finance Gtd. Dual Basis Bds. 2002 \$10,171.88 Mid Wynd Intl. Inv. Tst. 3.6p Mitsubishi Capital Gtd. Duel Basis Bds. 2000 \$2,459,72 Parambe 0.55p Perkins Foods 1.75p Platinum Intl. Finance Tranche A Fitg. Flete Sec. Nts. (11) 2003 Y1,158,750 Porvair 1.4p Reed Intl. 6p Sanwa Australia Finance Gtd, Fitg./ Fixed Flate Nts, 2003 \$1,963.44 Second Alliance Tst, 26.5p Do. 41/2% Cm. Pf. £1,575 Smith (W.H.) A 9.9p Do, B 1,98p Smithkline Beecham ADR \$0,2379 Ulster TV 6,25p USDC Inv. Tst. 1.25p Woolwich Bldg. Society Fitg. Rate Nts. 1996 Ecu203.49

RESULTS DUE

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8

ON MONDAY, Farnell Electro-nics, the Harrogate-based elec-tronic components and equipment manufacturer and distribu tor, is expected to report laterim pre-tax profits of about £18.5m, against £15.4m before exceptionals a year ago. The results will be the first for Mr Howard Poulson, Farnell's new chief executive, no arrived in August from

SmithKline Beecham, the Anglo-American healthcare

and restructuring charges, Underlying pharmaceuticals growth is expected at between 8

group, reports third-quarter profits on Tuesday. Analysts expect pre-tax profits of about £300m, up 12 per cent on the £267m of the same period lest year. The results will reflect the sale of consumer products to Sara Lee and 10 per cent, but analysts will be looking at the impact of reforms in Italy and Germany. Also on Tuesday, Wolseley, the

heating and plumbing distribu-tor, is expected to report prelimi-nary pre-tax profits of about £110m for the year to end July 31, up from £91.3m last year - a fig-ure which surprised analysts who had been expecting £70m.
Smiths Industries, the zerospace and specialist engineering
group, is likely on Wednesday to
report annual profits only marginally increased from last year's total of £102m. Once again,

craft programmes will be partly offset by the strength of the group's medical products side. Albert Fisher, the food pro-cessing and distribution group, is

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Rucatse tatives from BAA, the Dtp. Tel: 071 730 0430 Pax: 071 730 0460

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Andrew Baxter looks at Otis's joint ventures in the former Soviet Union

Russian ups and downs

ussia may have its politi-cal problems, but there is no denying the engineer-ing skills of its workers, according to Rudolf Kunert, senior vice-president at Otis Elevator International.

"They even found mistakes in our drawings - that shows how good they are," says Kunert of some of the liftmaker's new partners in its four Russian and one Ukrainian

joint ventures.

Assessing the skills of Russian workers is just ooe of many man-agement tasks facing a western company planning to move into the former Soviet Union. Otis, part of United Technologies, is well ahead of the game – its ventures, one of which started as early as 1990, already employ about 14,000.

The scale and hreadth of these operations means that the company's experiences in the former Soviet Union have a relevance that goes beyond the lift industry.

Between them, the vectures -Shcherbinka Otis Lift near Moscow, Otis St Petersburg, Rus Otis, Mos Otis and UKR Otis in Kiev – are doing everything from manufactur-ing lifts and spare parts to servicing and refurbishing old Soviet-designed lifts in provincial cities.

There is manufacturing on greenfield sites, as well as in existing factories that have become part of a joint veoture.

Otis first developed a presence in the former Soviet Union in 1990 when it formed Shcherbinka Otis Lift with what was then a unit of the national liftmaking agency. By 1991, it had two joint ventures, and was looking to expand its preseoce, hased on the vast market it saw for new lifts, and refurbishing and servicing of existing lifts in apartment blocks, hospitals and small offices.

Otis's thinking was that it was less likely to he affected by political upheavals than companies selling less humdrum products. As George David, then Otis chairman and chief executive, said in 1991: "There are lots of oational events . . . but meanwhile people eat, sleep and ride in elevators.

This strategy remained intact through the failed coup of summer 1991, the collapse of the old Soviet Union, and the recent upheaval in Russia culminating in President Boris Yeltsin's bloody victory over rebel parliamentarians.

The overriding messages to come out of Otis's experience are the importance of recognising both the similarities and differences between



Raising its profile: Otis sees a vast market in Russia and the Ukraine

western and former Soviet workers. markets and customers and of being patient, rather than trying to force the pace of change.

Otis did not see why it should treat Russia differently from other markets in requiring the specialised approach to manufacturing that has been common for two or three decades in the west. Having made commitments to invest in Kiev, St Petersburg and Moscow, it wanted to avoid repetition, says Kunert.

Consequently, lifts are being put together in St Petersburg from electronic parts made there, from driving machines made in Moscow and doors and other parts produced in

This is an alien concept for most of Russian industry, whose factories are used to making everything themselves. Consequently, results cannot be achieved overnight,

Now Otis has reached the point, says Kunert, where "there's something real and tangible at all five of the ventures." At Shcherbinka, for example, the first lift driving machine passed its quality test only

There are several reasons why western investors should have a realistic timetable. Organising supplies of materials and components is difficult because there are so few specialised subcontractors in Russia. The factories have capacity, but don't have the ability to sell their capacity," says Kunert.

Producing the right mix of local and western skills in the joint ven-tures also takes time. According to George Channin, Otis' area director for eastern Europe, the Russians' engineering, scientific and maintenance skills were excellent and thus the transfer of western technology into the ventures went relatively

"But people with skill weren't always provided with the right tools," he says. "The skills gap is greatest in management, sales and marketing and accounting."

The Otis approach has been to appoint a general manager for each venture from the staff of the local partner, and typically to have three expatriate executives. These would

be a financial expert, a generalist who can work alongside the general manager and help with sales and marketing, and then - depending on whether it is a manufacturing or service joint venture - a technical or a marketing development expert. The "twin concept", where the Russian executives works with a partner/teacher, is also used. In one of the companies, for example, there are two financial managers, one

expatriate and one Russian. According to Kumert, expatriates are especially needed to help set up an organisation that goes out to sell to the customer. "In the past, having something to distribute was a privilege - If you are nice to me. we'll give you something was the

rule," he says.

It clearly helps if western companies can draw on experience gained in other parts of the world, where at least some of the circumstances may have been similar. To help the joint ventures cope with inflation, for example, Otis has brought in one of its expatriate financial man-

agers from Latin America.

The pattern, says Channin, is for Otis to start reducing the expatriate team at the end of the second year; in the longer term, he would expect each venture to have only one foreign executive.

Already, there are encouraging signs indicating how the joint ven-tures are coming of age. Kunert recalls how, in the early stages, Russian managers were very keen to come to the west on training courses. "Now they are saying 'Please don't put us on too many training courses, we also have to do our job here'." This self-sufficiency is being stimulated in turn by Otis. "We were a little gentle in the first year or two," says Channin, "but now the local manager is responsible for the training costs and travel expenses in his business plan, so he is more conscious of the costs and beoefits, and making decisions accordingly."

Sometimes the similarities between the west and the former Soviet Union are stronger than the differences. The first priority of customers outside the big cities is still to ensure that Otis can deliver on time, and after that they discuss the price. But you might find a similar attitude in a small town in northern Canada, says Channin. .

As for the lift industry people you could put them in a room with their western counterparts and they would share the same concerns,

TIPS FROM THE TOP

When it's all in the name

Clive Thompson, chief executive of Rentokil, offers advice on commissioning a new corporate identity

have often said that if I had to choose a company name L today I would not choose the name Rentokil. It is doubtful whether anyone in this environmentally aware age would he brave enough to select a company with the name "Rent to Kill", let alone hope to become the world's largest provider of tropical plants or develop flourishing healthcare and medical services businesses.

Indeed one top design company (which we didn't employ) said that a change of name was essential. But there is no doubt that names can be either silly or apparently inappropriate and still remain world famous and popular. Have you ever stopped to think about the food range called "Birds Eye" or the detergent called Fairy Liquid"?

There is no doubt that some names achieve that elite status which transcends literal interpretation, and Rentokil in the UK, if not everywhere, has achieved this level. Experts and even after this time only a

believe it can take up to 30 years, few companies ever achieve it. So in commissioning a new corporate identity we applied one rule - no name change.

In drawing up a brief we first had to be brutally honest in accepting the weaknesses of the existing identity. Two harsh realities emerged: the letters were heavy, awkward and old fashioned someone rudely likened them to the flared trousers of the 1970s; the reversing out of a red block gave a tabloid newspaper feel and emed to lack quality. It is amazing how much

difference type faces and letter styles can make. We asked the designers to incorporate the fact that we are a company with many different services. Each business was to be represented by a symbol, but however hard you try it is difficult to find good symbols for all of our services. We gave up on this in favour of a modern, friendly, mp-beat

feel but we just ended np

a change from blood red for

Rentokil might be timely, and we considered a variety of different colours. However, we eventually concluded that too much had been invested over many years in Rentokil red and we didn't feel comfortable with any other colours.

All this made us realise that we were after evolution not revolution, and we searched for royal warrant. We dropped all images and the result suddenly

began to appear before us. We recognised evolution as the the royal warrant, since we believe It is probably the best Rentokil with crisper, modern We had originally expressed

* Rentokil

It is amazing how much difference type faces and letter styles can make

Rentokil

resembling retail-type corporate identities.

We decided to explore other ideas. We thought that maybe

our core values. From this heart searching the words "modern" and "quality" emerged, along with a very strong allegiance to the the other ideas in favour of these

solution and that the strengths of our past had to be continued. but with a fresher, smarter feel. The result was the inclusion of recognised symbol of quality in letters in an even stronger red.

frustration at the number of occasions when Rentokil was broken into the three words Rent-to-kill, so the designers recommended an underline below the word to encourage the eye

to read it as one word. A thinner red stripe than previously was then added on the same white vehicles, with the addition of a black trim at the beight of the bumper to give extra visnal weight.

The result is that the new design bas a modern, quality feel which the old design did not; at the same time the new one bas enough resemblance to the old logo to be clearly evolved from

In the end, with 18 months of sometimes hard and frustrating work, the result was almost an anti-climax. We wondered: "Is it really different enough to reflect all that effort and money?"

The answer is a confident "yes". We learnt, like many others, that in the end the right answer is the one that feels right for you, and it is amazing how dated our old logo now appears.

Next Monday: Sir Geoffrey Mulcalny of Kingfisher on how to decide which charities to support.



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I O M E I Y



Architecture/Colin Amery

Rebuilding of the Reichstag

There is a special poi-gnancy about the choice of a British architect to rebuild the home of German democracy in a Berlin that is united hut still scarred by the wounds of division and war. And it is was a remarkable achievement of Sir Norman Foster and Partners to win the contract for rebuilding the Reichstag in the face of fierce international competition. A small, but scarcely edequate, tribute has een mounted by the Royal the Art Commission, where an exhibition of his designs for the Reichstagcan be seen for one week (until October 22) in the basement of No.7 St. James's Square, London, SW1

iti

German patrons of architecture are used to the competition system and in recent years it has been a very successful in providing some good, and a few excellent, contemporary buildings. The new museums in the former West Germany offer the most varied series of examples of international patronage. This is going to continue, with the competition for the Museum Island in Berlin offering an extraordinary opportunity for architects to

his performance caused the biggest uproar I have

Garden, when an eagle teth-pered to the ground fell over and was left upside down flap-

ping its wings through the

opera's long opening aria, A

pair of parakeets due to come

on later wisely cancelled their

By and large opera does not

enflame emotions in Britain, I

have been in an audience in

Germany which drowned the

music with whistles and foot-

ball rattles; another in Italy

drove the tenor off the stage

before he had a chance to sing

the top C they were convinced

be did not have. British audi-

ences, their laudable concern for birds and animals aside, are

more tolerant and two years ago welcomed the Royal

Opera's adventurous staging of Mozart's Mitridate, re di Ponto.

That was Mozart bicentenary

year, when it was even possi-

ble to stage a 14-year-old's first

try at an opera seria. On stage his early works tend to look drily conventional these days.

unless the production stamps

its own personality upon

The Royal Opera's produc-

tion team - Graham Vick (pro-

ducer) and Paul Brown

(designer) - did just that. It

may be that this Mitridate will

eventually come to look typical

of e passing fad for designer-la-

bel minimalist staging, but for

the moment it seems fresh and

striking in its simplicity, its

perspectives, above all its mag-

nificent blend of coloure

deep glowing red, shot

through with blues and pierc-

ing yellows.
Vick bas accepted that in

Mozart'e day the performance style would have been stylised

and, shunning a straight

period copy, has sought a 1990s

equivalent. The result suggests

Far-Eastern ritual. Arms are

delicately suspended, hands

gedei

rsi.

يبغاني

ever witnessed at Covent

build next to the great Museum by Schinkel. Who can aver forget the

sight, even if only seen on film, of the hiazing dome of the Reichstag in 1933? Hitler was on the rise and blamed the communists, but no one was fooled and the fire was later seen as a Nazi deed. The first flames of the European terror. The Reichstag was

completed in 1894 to the designs of Paul Wallot. It was opened by the Emperor and had taken 10 years to huild. With its four pylon-like corner towers and giant portico, it had a high level of florid pomposity ebout it. Inscribed with the words "Dem Deutschen Volke", the Reichstag has always been a powerful national symbol.

Sir Norman Foster and Partners had to cope with the high-est level of international competition and the little London exhibition shows their winning scheme alongside the two other entries that won the first stage, the Dutch architects. Pi de Bruijn; and the Spanish architect Santiago Calatrava. The first stage was open to all German architects and an invited list of some 14 interna-

Opera/Richard Fairman

Mitridate, re di Ponto



Sir Norman Foster and Partners won the contract in the face of fierce international competition

tionally distinguished practices. Three schemes were then shortlisted and the brief was substantially revised. The winner was then chosen from this second stage. Architects of the quality of Hans Hollein, Helmut Jahn, Fumihiko Maki, Jose Rafael Moneo and Aldo Rossi all entered impressive

German competitions also involve much public consultation and discussion. A major colloquium was held to discuss all aspects of the competition. The public was divided about the retention of the old Reichstag buildings. Parliament Itself only voted by s very small

majority to retain the major surviving elements of the old building.

Sir Norman Foster's first stage winning scheme was very different from the more modest schema that finally wor. The huge and marvellous roof that was originally planned to cover the whole old building (and a great deal more public space) has been abandoned; the present scheme encloses all the new uses within the framework of the old walls. Courtyards are reinstated and the formal nature of the old building is respected.

completed parliament in Bonn. A great deal of work is done in committee rooms and these active areas all have to be visible and accessible to the public. (Much of the brief for the new parliament had to do with the need for democracy to be seen to be at work and for the whole parliamentary area to be public and accessible.) In Foster's scheme, the central plenary hall is a grand but natu-

cular, based upon the recently

ensure sparkle and light throughout the building. The seating arrangement of Symbolism is very important the main parliament hall is cir- in a public building of this Symbolism is very important

rally lit space. Glass lifts and

glass floors in light wells will

standing, but current contemporary architecture does not provide a very poetic or symbolic language. The new design which discards the giant umbrella roof will be a measured response to the powerful presence of the retained build-

His great roof for the Reichs-tag did imply that there there was more to democracy in the

was her one undoubted stage success. It had a good run in New York and was shown in newly united Germany that could be encompassed by the capitals around the world, walls of the old Reichstag. 1 including London and Moscow. expect the external profile to If the title sounds almost as change as the plans grow and that he will create a wonderful obscure as the author, it is because it is French, meaning "mechanical" or "machineand beautiful building in Ber-

And that must be one of the reasons wby the National Theatre has chosen to stage it. Rarely can the RNT's mechanical resources have been deployed so extensively. The director is Stepben Daldry, who used to display his techni-cal skills at London's tiny Gate Theatre in Notting Hill and recently showed his ability to expand with his direction of An Inspector Calls at the National, Here he cuts loose. From the flies to the orchestra pit, no part of the Lyttelton stage, which turns out to be more mobile than we had previously realised, is neglected. Whether it's tenements, offices, hospital or court, this is New York from the top to the bot-

The mechanical climax is the electric chair. For Machinal is based on a murder trial which Ms Treadwell covered as a journalist. After six years of marriage to a man she never much liked, e woman of 29, played by Fiona Shew, kills her husband, is convicted and sentenced to death.

Theatre/Malcolm Rutherford

Machinal

Scenes of violence have been breaking have been hreaking out in the Lon-don theatre. There was a gratu-

itous act of cannibalism in Mike Leigh's It's a Great Big

Shame at the Theatre Royal, Stratford East, last week. More understandable, because it is an integral part of the story, is

the sustained brutality in the

Tamburlaine the Great at the

The most intriguing exam-

ple, however, is Sophie Tread-well's Machinal which opened

on the Royal National Thea-

tre's Lyttelton's stage on Fri-

On the face of it, this is e

bold choice. Not evaryone,

including myself, had heard of

Ms Treadwell before. She was

en American journalist, part-time revolutionary who

also wrote plays. Her dates are

1885-1970. The Mexican revolu-tion, in particular, had an an

Machinal, written in 1928,

influence on her.

RSC's production of

Barhican.

Previously there has been some restraint, both in the staging and the writing. We do not see the murder. There is e moving scene when Ms Shaw is liberated by finding a lover (Ciaran Hinds), though it is the lover - for reasons unex-plained - who turns in the decisive evidence against her. The trial scene, with all the workings of American law, is undeniably effective. Yet it is to the electrocution that the production, played without an interval, bas been deliberately

moving.
Ms Shaw strips to put on the death-robe with some dignity. Only when it comes to the shaving of her hair does she protest. There is a final, not very illuminating, exchange with her mother, then it's the chair, flashing of lights, and that's it: end of play.

Apart from showing off the RNT's technical resources and Daldry's skills as a director, with lan MacNeil doing the work on the settings, there is another perfectly good reason for the revival: namely, curiosity value. You will not often see e piece like it.

One should be more sceptical, however, about the claims in the programme notes that it is all very relevant to the present dey when, it is said, women are still unfairly sentenced for killing their bushands or lovers without account being taken of bow far they were provoked. As e matter of fact, the busband in Machinal (John Woodvine) may be pretty boorish, hut he's not that bad. There's no excuse for doing him in. Take this modern apologia in the programme with a large pinch of salt. I also wonder whether you do counter violence by sbowing so much of it on stage, Some of the directing looks obsessional. As for Machinal, It's a play without hope.

Malcolm Rutherford In repertory, Lyttelton Theatre, (071



Bruce Ford in Mitradate

preciously clasped, in e style which can quickly become irritating if it is overdone. When Lillian Watson is singing with bright spontaneity, it is no help to have her and her attendents practising slow-motion wrist exercises.

When it matters, however, the idea is quietly set aside. The first sign of the great operetic master Mozart was to become occurs in the scene when Mitridate returns bome from war, a foreshadowing of ldomeneo's moving homecoming. Helped by the production's ability to set a newly serious mood, Bruce Ford sang of the "beloved shores" with masterful poise. Of his two (originally castrato) sons, Ann Murray's strong Sifare was more successful at hreaking the formal mould than the softgrained Farnace of Jochen Kowalski.

The main newcomer to the cast was Luba Orgonasova as Aspasia. A perfectly-formed and delicate soprano voice, an extremely able technician, all that is known from recordings already. On stage she unfortunately sounded small-scale and unable to stir emotions with the voice. Paul Daniel was perinsufficiently heps

strong-minded at shaping her slow music, but in everything that was fast he proved e positive, vital Mozart conductor. This Mitridate deserves to come back egain, although next time I imagine the only birds on display will be the vocal canaries.

Further performances until 3

Opera/Clement Crisp

Twyla Tharp and Dancers

or lovere of dancing, Garrnier's palace - the Paris Opera - is now the best place in the world. Of course, the Mariinsky Theatre will alwaye be our holiest shrine, but French government policies have, over the past decade, made the Opéra e dance-house without rival. This season iy will offer 10 different and richly varied pro-

grammes by lis ballet troupe, plus visits by five invited companies from round the world. That I would not give certain of them house-room does not detract from the wisdom of the principles involved. Last week the first visitors

arrived, billed as Twyla Thorp and Dancers, but - with Miss Tharp obliged to stay in New York - amounting to "and dancers", which proved to be her newest troupe of 16 treendous performers. The repertory comprised

seven pieces, created during the past 20 years, and across those years Tharp has established herself as the most imaginative and free-ranging of dance-makers. When she started out as a

choreographer in 1965, she was embroiled - but only for a brief span - in the deadly boring fashion of the period for "re-inventing dance. This meant inaction as action, and the mexpert as expert. This was not for Tharp. A fireball of a dancer, she soon revealed the quality that has since marked her every work - her fascina-tion with movement. She has journeyed through modern and post-modern, through jazz and show-biz, social dance and ballet, and in her travels she has taken ideas from each, fusing, contrasting, linking (and rejecting) elements to create a style that has spanned most forms of theatre, and has yet retained an integrity that comes from Tharp's devotion

to movement.

It has been an education conducted in public, which has fascinated her eudiences quite as much as it has fascinated Tharp. She has asserted both innovation and continuity. grafting popular dance onto balletic stock, freeing movement, re-thinking it, just as she dared to combine rag-time with Haydn in Push comes to Shove, and showed the classically sublime Baryshnikov as the best of jazz dancers.

Her choreography, as we saw in Paris last week, acquires an exhilarating freshness from this liberated imaginetion. Tharp, berself a virtuoso with a pugnacious and Cagney-isb air to her most daring feats, loves bravura. Her present dancers are dazzlers all, and number such artists as Stacy Caddell and Shawn Stevens from New York City Ballet, Petter Jacobsson (lately with the Birmingham Royal Ballet) and Jamie Bishton, a favoured Tharpian for several years. Thursday night's programme opened with last year's Sextet, a minor piece which toys with South American dance and the classic vocabulary. It comes as a shot of adrenaline to alert the public to what follows.

What follows is Tharp at ber most stunning: this year's re-working of the latter part of her masterly Brahms' Poganini from 1980. Jamie Bishton is in white; two couples are in hlack. Brahms' variations coruscate around them, and the dance responds magnificently. Movement catches ideas from the score, transforms the prodigies of the pianism into e tremendous cot and thrust through which Bishton slides, curves, rolls and races like the world's greatest athlete, who is also the world's greetest dancer. Long ewathes of dynamics, sudden subtle turns and curves, mark his dancing, which is glorious. So are his companions. So is the piece.

Then to Baker's Dozen which has always seemed to me a view of the happiest comradeship among its cast of six couples. They dance, buoyed up on Willie "The Lion" Smith's enchanting piano music, and in their elegant white outfits, joking with each other in easy converse, they suggest a constant in Tharp's work: the need to make order out of chaos or disjunction. It is a beautiful and irresistible work, which the present cast perform irresistibly.

One may also trace certain subliminal links with the last, and major, piece in this programme: In the Upper Room. Tharp bere offers the contrast between ballet shoes and trainers - and all that implies of gymnastic energy set against formal dance, between sport and art, between popular forms and academic disciplines. No that she belabours the point. There is a flux of movement, almost unendurably energetic - a fact dictated hy the relentless blare and grind of e Philip Glass score: vile though found it, Tharp gives It theatrical sense. Loose, grey-striped outfits

reveal traces of other, red garments, and these are equated with differences to dance style. Jamie Bishton speaks (dances) for athleticism. Petter Jacobsson, classically dazzling, incarnates the rule of the academy, and magnificently so. But this analogy need not be pushed too far: Tharp's choreography justifies and illuminates both styles, and with increasing power as the work progresses. Its finale, in which choreography burtles in and out of the shafts of light that are the decor - the activity emerging from nothingness - is a mas-terly exposition of Tharp's command of dance in the theatre. How long before we see Twyla Tharp and company in London?



Fiona Shaw and John Woodvine in Machinal

INTERNATIONAL

BERLIN

OPERA/DANCE Deutsche Oper Tonight: Salute to Sinatra, with Barry McDaniel. Tomorrow: Aida. Wed: Fidelio with Nadine Secunde and Kurt Moll. Thurs: Madama Butterfly. Fn: Der fliegende Holländer. Sat. Die Zauberflöte. Sun: Der Rosenka with Karan Armstrong and Kurt Moll (341 0249)

Staatsoper unter den Linden Tonight and Sat: Rigoletto. Tomorrow and Sun: Tannhäuser with Reiner Goldberg. Wed: Theo Adam song recital (200 4762/2035

Philharmonie Wed: Mikhail Pletnev piano recital. Thurs: Okko Karnu conducts Berlin Radio Symphony Orchestra in works by Tchaikovsky and Brahms, with violin soloist Miriam Fried. Sat: John Maucen conducts orchestral music once denounced by the Nazis as degenerate. The Berlin Philharmonic Orchestra is on tour in North America till Nov 1 (2548 8232)

Schauspielhaus Thurs and Fri: Horst Stein conducts Berlin Staatskapelle in new work by Victor Bruns, plus Weber and Tchaikovsky. Sat, Sun, next Mon: Walter Weller conducts Berlin Symphony Orchestra in Smetana, Richard Strauss and Tchaikovsky, with hom soloist Radovan Vlatkovic. Oct 31: Seiji Ozawa conducts Vienna Philharmonic (2090 2156)

Berlin'a annual jazz festival runs from Oct 28 to 31. This year's guests Include the Carnegie Hall Jazz Bend, John McLaughlin Trio, Woody Herman'a Reunion Herd, Barbara Dennerlein Quartet, Steve Lacy's Vespers, John Abercomble Trio and Charles Earland Quartet. Most events take place at the Philharmonie (Tickets and information from the Berlin Festival office, Budapester Strasse 48, tel 254890)

■ NEW YORK

JAZZFEST

THEATRE Later Life: A.R. Gurney'a witty and perceptive new play about tha reunion after 30 years of a man and woman who were once in love (Westside, 407 West 43rd St, 307

 Angels in America: the first half of Tony Kushner's epic, freewheeling play about gay life, Reagan-era politics and Mormonism. Not to be missed (Walter Kerr, 219 West 48th St, 239 6200)

She Loves Me: the 1963 Bock, Hamick and Masteroff musical makes a long-awaited return to Broadway In a transfer of Scott Ellis'

Roundabout Theatre production first seen in June. A delicate, unabashedly simple story, with all the humanity, integrity and charm that Broadway's glitz-laden mega-musicals lack (Brooks Atkinson, 256 West 47th St, 307 4100) Kişs of the Spider Woman: a

Kander and Ebb musical. The

musical is based on the novel by Manuel Puig, is directed by Harold Prince, with e star performance from Chita Rivera in the title role (Broadhurst, 235 West 44th St, 239 Annie Warbucks: Kathryn Zaremba, an Infant phenomenon

if ever there was one, has the title role in this beguiling sequel to Annie (Variety Arts, Third Ave at 14th St, 239 6200) Fool Moon: a comic

entertainment written and performed by David Shiner and Bill Irwin, with music by the Red Clay Ramblers (Richard Rodgers, 226 West 48th OPERA/DANCE

Metropolitan Opera Placido

productions - La Rondine, Tosca

Domingo sings the title role in the Met's first production of Stiffelio opening on Thurs (repeated Oct 25, 28, Nov 1, 6, 10, 13). James

Levine conducts a stacking by Giancarlo del Monaco. The cast also Includes Sharon Sweet, Vladimir Chemov and Paul Ptishka. Repertory also includes Die Zauberflöte. Fidelio, Tosca and Madama Butterfly (362 6000) State Theater New York City Opera's repertory this month Fn), with e cast led by David consists of The Mikado, Le nozze Rendall, Gregory Yurisich, Diana Montague, Luciana Serra and Lella di Figaro and three Puccini

and Madama Butterfly (870 5570)

CONCERTS Avery Flaher Hall Tomorrow: Zdenek Macal conducts New York Philharmonic Orchestra in works by Rossini, Mozart and Dvorak, with flute soloist James Galway, Thurs, Fri afternoon, Sat and next Tues: Dennis Russell Davies conducts Beethoven, Walton and Debussy, with viola soloist Yuri Bashmet. Fri evening: Kurt Masur conducts Lelpzig Gewandhaus Orchestra in symphonies by Mendeissohn and Beethoven. Next Mon: David Zinman conducts Orchestra of St Luke's (875 5030)

Carnegle Hall Wed: Hugh Wolff conducts St Paul Chamber Orchestra in works by Respighi, Beethoven and Tchalkovsky, with plano soloist Yefim Bronfman. Fri: Guarneri String Quartet, with clarinettist Harold Wright, play Brahms, Sun: Jean-Plette Ramphal flute recital. Next Mon: Fiddlefest with Itzhak Periman, Isaac Stem and Midori, Oct 28, 29, 30: Claudio Abbado conducts Berlin Philharmonic Orchestra in three Mahler programmes (247 7800)

PARIS

OPERA/DANCE Opéra Bastille Myung-Whun Chung conducts a final performance tonight of Werner Herzog's production of Der ffiegende Hollander. Roman Polanski's production of Les Contes d'Hoffmann can be seen tomorrow. Thurs, Sat (also next Mon, Wed.

Cuberli (4473 1300) Palais Garnier Ballet de l'Opéra de Paris presents a Jerome Robbins programme, opening on Sat and running daily except Sun and Mon till Nov 3 (4742 5371) Chatelet Frankfurt Ballet opens a 10-day residency on Wed with the first of two William Forsythe

programmes (4028 2840) **Bobiany Steve Reich's** music-and-video piece The Cave can be seen on Thurs, Fri, Sat and Sun (4831 1145) CONCERTS

Théâtre des Champs-Elyseés Tonight: Jean-Philippe Collard plane recital. Tomorrow: Lucia Aliberti, accompanied by Orchestre Colonne sings Italian opera arias. Thurs: José Carreras. Fri: Alban Berg Quartet, with planist Rudolf Buchbinder, plays chamber music by Dvorak and Janacek. Sun morning: Eliso Virsaladze plano recital. Oct 26: Gothenburg Symphony Orchestra. Oct 27, 28: Riccardo Muti conducts Orchestre National de France. Oct 29; Seiji Ozawa conducts Vienna Philharmonic (4952 5050) Maison de Radio France Tomorrow: James Conton conducts Orchestre National de France in works by Florent Schmitt, Poulenc and Roussel, with organ soloist Michel Bouvard (4230 1516) Salie Pieyel Wed, Thurs: Pierre Boulez conducts Orchestre de Paris in works by Stravinsky, Berg, Debussy and Messiaen, with violin soloist Viktoria Muliova. Oct 27, 28: Semyon Bychkov conducts Mahler's Third Symphony, Fri: Marek Janowski conducts Orchestre Philharmoniqua de Radio France in Mozart and Liszt, with violin

soloist Isabelle van Keulen (4561 Chatelet Sun morning: William Christie and Les Arts Florissants

in a Boccherini programma (4028

 New York Voices, a jazz vocal group founded in 1987, is in residence for the next two weeks at Lionel Hampton Ja. Club, with a repertoire ranging from original compositions to Aretha Franklin, Stevie Wonder and Ella Fitzgerald. Music from 8.30pm (Hotel Meridien Paris Etoile, 81 Boulevard Gouvion St Cyr, tel 4068 3042)

 Paris International Jazz Festival for the next two weeks. Eric Barret Quartet and pianist Michel Petrucciani can be heard at Maison de Radio France on Sat and Sun (4230 1516). Théâtre de la Ville hosts concerts on Oct 27, 28 and 29 featuring Betty Carter, Bill Evans Band and others (4274 2277)

THEATRE Jorga Lavelli's Avignon Festival production of Edward Bond's Maison d'Amet, runs at Théâtre National de le Colline till Dec 12 (4366 4360). A new production of Moltère's Le Misanthrope, directed by Jean-Christian Grinevald, opens at Théâtre de la Main d'Or on Wed, daily except Mon till Jan 1 (4805 6799). Bob Wilson's stage adaptation of Virginie Woolf's Orlando, starring Isabelle Huppert, at Odeon-Théâtre de l'Europe, ending on Sun (4441 3636). Théâtre Nanterre-Amandiers has Eugena O'Nelli's Desire under the Elms, directed by Matthias Langhoff, till Nov 4 (4614 7000)

ARTS GUIDE Monday: Berlin, New York

Tuesday: Austria, Belgium, Netherlands, Switzerland, Chicago, Washington. Wednesday: France, Ger meny, Scandinavia. Thursday: Italy, Spein, Athens, London, Prague. Friday: Exhibitions Guide.

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Sky News: Financial Times

Reports 1330; 2030

Samuel Brittan

An inflation target is not enough



and amount of spending in an economy or group of ecooumies be so low to lead unemployment and recession?

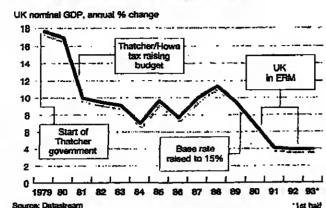
gave a resounding "ves" to this question. The mistake postwar governments that tried to follow his teachings made was to suppose that monetary and fiscal policy could be determined solely with an eye to output and johs, without taking prices into account - other than by controls or by jawboning. The result was that inflation took off and one government after another found its policies derailed. (It is sad that Michael Stewart cannot see why these events occurred in his new Penguin polemic, Keynes in the 1990s.)

The result was that by the end of the 1970s most countries were trying to return to some sort of sound money policy. This was very necessary. What was unfortunate was that they did not stop at throwing away the inflationary bathwater; they threw away the commonsense hahy as well. For it remains true that total spend ing in an economy can be too low as well as too high.

British sound money policies took the form first of monetary targets and then of exchange rate objectives, culminating in ERM membership. After both these gods failed, the government announced an inflation target of I to 4 per cent, with the liope of eventually reaching the lower half of the range, as its only macroeconomic goal. Most commentators were so relieved that something had been saved from the wreckage that they did not realise that an ioflation target on its own was a retrograde step, which did indeed risk throwing out the hahy of sensible demand management with the bathwater of inflationary finance.

Yet there were a few voices who had all along urged a form of demand management that was in keeping with sound money, hut also provided a safety net against unnecessary which raised taxes in a reces-

How UK demand has fallen away



recession. The headline of this policy had the jargon-sounding name of Nominal GDP - a national cash flow objective might be a good translation. All it means is that govern-ments and central hanks should try to maintain a level of spending low enough to prevent an inflationary take-off, but high enough to secure adequate growth when pay and prices are sufficiently

interestingly enough, the original monetary targets, if they had worked, would have heen more helpful here than the new direct targets for inflation. Monetary targets were supposed to stabilise a quantity known as PT, the price level times the volume of current transactions. So once a tight money policy had done its joh of squeezing out infla-tion, P would fall, T would rise, and output would automati-

A price target on its own however, contains no such safety net. If real output were to fall by 10 per cent and inflation remained at 1 per cent, everything would seem to be fine except for the blood on the streets.

The chart shows that these are far from hypothetical reflections. There is no mistaking the trend. in the first couple of years of the Thatcher government Nominal GDP was still rising at double-digit rates. So although I was not a particular fan of the 1981 Budget,

sion, there was no way in which I could support the 364 protesting economists or the self-proclaimed "Tory wets".

We are now in a changed universe. On the latest estimates UK Nominal GDP is rising hy 4 per cent per annum, compared with the rate of 6 or 7 per cent consistent with moderate recovery and low inflation. These few percentage points of shortfall can eventually amount to hundreds of thousands of jobs.

So the UK needs a tightening of policy like it does a hole in the head. The same applies to most other Group of Seven countries for which similar charts can be drawn. A Nominal GDP objective is easier to achieve for the world's leading economies in concert - which is one reason to avoiding a unilateral slashing of interest rates by the UK.

There will be ample opportunities for a concerted approach at the proposed G7 "employment" summit as well as the EC summit on October 29. One low-key proposal would be to ask the - already existing staff of the European Monetary Institute to map out, without committing their bosses, what sensible path of Nominal GDP for the Community might look like and alternative meth-ods of achieving it. But action in the spirit of the idea is required earlier - and was indeed called for in the IMF Economic Outlook, although wrapped up in the verbiage of

that institution.

be problems facing Boeing, the world's largest manufacturer of airliners, are as big as its jumbo jets.

Although the company celebrated a landmark last week by delivering to Singapore Airlines the I,000th 747 jumbo to be built, so far this year it has failed to win a single order for this, the biggest and most profitable aircraft in its product

Mr Philip Condit, Boeing's president, says there are some "faint positive signs" in the market, but he does not expect any swift. sustained recovery in new aircraft orders. "I'm not holding my breath," he adds.

The situation at Boeing's 1,000-acre facility at Everett, outside Seattle, the world's largest manufacturing plant, illustrates the company's predlcament. Boeing has spent \$2bn in the past two years expanding its plant to start producing the 777, its new wide-bodied airliner. This has increased production capacity at the plant - which already employs about 27,000 people and also assembles the 747 and 767 - from 14 to 21 aircraft a month. At best, next year Everett will be turning out only nine of these wide-bodied air craft models a month.

The recession and financial turmoil in the airline industry have forced Boeing to cut production rates for its entire family of airliners - including the narrow-bodied 737 and 757, hullt at Renton, Seattle - from a peak of 3914 aircraft a month to 21 in the past 18 months.

The dearth of orders means production of the 747 alone has fallen from seven aircraft a mooth to four a month and will drop to three in January. It could fall still further, and the company will prohahly have to shut one of its two 747 assembly lines next year. At Everett alone, there are

some \$4hn worth of stocks. It's a hell of an investment if you are not using it," says another Boeing executive. The company's problems have increased as a result of

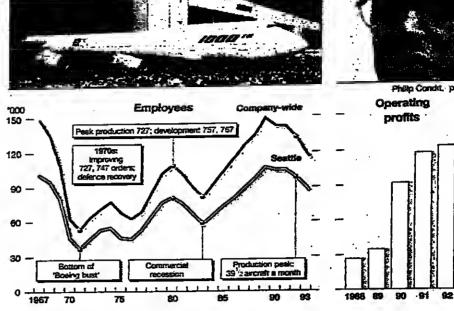
growing competition from the Buropean Airhus consortium. Boeing has responded by developing new products to compete against the European group in one of the deepest cyclical downturns in the industry's Apart from the 777, which

challenges the Airbus A330 and A340, Boeing is planning a new family of 737 airliners to defend its position against the A320 in the 150-seater airliner market. It is also developing a cargo versioo of the 767.

Tactics for smooth touch-down

Paul Betts on Boeing's efforts to ride out the downturn in the new aircraft market

Boeing: jumbo-size problems



This has pushed up research and development spending to about \$1.7bn this year, while new aircraft deliveries to customers have fallen from 446 last year to about 350 this year, and will fall further, perhaps to

about 259, next year.
But Mr Condit, a 53-year-old
engineer who joined Boeing 28
years ago and worked his way up the ladder, hecoming president last year, says he has seen it all hefore. "We were down to 1% 747s a month in the mid-1970s and down to two a month in the mid-1980s, when we could have built up to seven a month," he says.

Boeing, says Mr Coodit widely tipped to take over eventually from Mr Frank Shrontz, Boeing's chairman is also responding to market pressures by radically changing the way it does business. What we are doing is the reengineering of Boeing," he

In the past, Boeing was an eogineering-led company with technology driving its product strategy. Today, the company wants to be a market-driven company with customer requirements dictating strat-

"We are now adopting a very strong customer focus to provide our customers with value for money and speed in the way we respond to their needs," Mr Condit says, adding that in the competitive aviation husiness "the race goes to

the one who keeps running". At all costs, Mr Condit wants to avoid the mistakes of the big US car manufacturers. "The US car companies spent a lot of time watching each other and forgot to watch the customer. The result was to let the Jananese come in and change the character of the US car industry," he says, implying Boeing will not make the same error

with its European competitor. Mr Condit's model is General Electric, the US conglomerate which has become a growing force in the commercial aerospace business after its rescue of GPA, the troubled Irish aircraft leasing company.

"GE has done well in recognising they needed to focus on customers, value and speed of reaction," says Mr Condit, who visited GE in August with

other senior Boeing executives.

The clearest sign of restruct-

uring at Boeing is the depth of

joh cuts the company has made to adapt employment to lower

production levels. From a peak

of 148,672 employees in November 1989, the workforce is

expected to fall to about 116,000

But the company has man-

aged to mitigate some of the

shock of the restructuring pro-

gramme hy slowing down its

reduction of the huge backlog of firm aircraft orders, which

totalled \$90.8bn at the end of

June. "In the current cycle we

did not increase our produc-

tion rate as fast as we did two

decades ago. In the 1970s we

worked off our backlog too

fast, and when the market stopped we fell off a cliff," Mr Condit explains.

The drive to hold down costs

and improve productivity has

enabled Boeing to maintain

operating profit margins on

commercial aircraft pro-

grammes despite a reduction in

output. The company, which

has seen aircraft leasing and financial support to customers increase sharply in the current

by the end of this year.

Deutsche Aerospace, British Aerospace and Casa of Spain -on a new 600-800 seater superiumbo. But, while evaluating the market for what it calls a Very Large Capacity Aircraft (VLCA) with the European companies. Boeing has, alone, been considering a stretched derivative of the 747: it will be, about 20 per cent longer with two decks running the full length of the fuselage.

downturn, believes its restructuring efforts will help it exploit

Operating profit margins

have improved in Boeing's

defence and space business,

which accounts for about 20

per cent of group sales. A few years ago, Boeing considered moving out of the defence busi-

ness, but Mr Condit now seek

good potential for the company

With few indications of any

short-term recovery in the

commercial aircraft market,

Boeing, Airbus and McDonnell

Douglas are chasing the last

big airliner order in the cur-

rent cycle: for up to 60 aircraft

worth about \$6bn from Saudia

Competition for the deal has

led to a revival in the trade

dispute between the US and

Europe over government subsi-

dies for Airbus. But Mr Condit

plays down the issue, insisting trade wars are not beneficial

He confirms Boeing is "really

interested" in working with

the four Airhus partners -Aérospatiale of France,

the Saudi Arabian carrier.

in this sector.

to either side".

the next growth cycle.

Mr Condit does not expect either programme to be launched before the next century. Overcapacity in the airline market continues: about 1,000 new aircraft lie idle in the Californian desert; the 747 and the new 777 already provide aircraft with 400 seats or more; and a version of the 747 used on some Japanese routes can carry 550 passengers.

The last thing Boeing wants is another costly development programme when orders are falling and it is already having to spend heavily on other conmercial aircraft projects. But the company is determined to defend its 60 per cent share of the world airliner market and

monopoly in the jumbo sector.

The aerospace industry does not expect a rebound in commercial aircraft ordering until 1995 or even 1996. Mr Condit says he is oot interested in forecasts but in getting his strategy right: "We will be focusing more than ever on our customers' requirements, and we don't want to be left behind to allow someone else in.'

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LETTERS TO THE EDITOR

Number One Southwark Bridge, London SE1 9HL Pax 071 873 5938. Letters transmitted should be clearly typed and not hand written. Please set fax for finest resolution

UK too zealous on safety regulations

From Mr Daryl Jones.
Sir, I see that Mr John Rimington, the director-general of the Health and Safety Executive, is still referring to EC legislation as being "unnecessar-ily prescriptive" (Letters, October 13).

I did an analysis of the Health and Safety Commission's "six-pack" regulations and the original six EC direc-tives. Ifound that the UK was over-zealous in its interpreta-

tions of EC directives.

For example, the Council directive on the minimum safety and health requirements for work with display screen equipment (90/270/EEC) is only five pages in length, including annexes. However, the UK reg(Display Screen Equipment) Regulations 1992 - is 33 pages long. Another five regulations put out by the HSC are equally

If Mr Rimington refers to the Department of Trade and Industry Scrutiny Team report on the "Review of the Implementation and Enforcement of EC Law in the UK", he will see that health and safety issues are already under review owing to unnecessary over-reg-ulation, especially of small and medium-sized husinesses - the life blood of Britain's economy. Daryl Jones, 3 Place Leemans. Brussels 1040.

The meaning of independence the word independence.

Sir, Your Rome correspondent goes a long way ("Easier said than done". October 12) in trying to lend weight and dignity to grossly unfair criticisms which have been levied against the strategy of Prof Romano Prodi, head of Iri, for moving ahead with the Comit and Credit privatisations. I do not see any other alternative to Prof Prodi's strategy, do yon? Let me add a comment to your correspondent's assertion that Mediohanca is independent. Independence should not

imply being unaware of con-flicts of interest. However, this is probably its interpretation of

Indeed, once upon a time its management (incidentally, still running the same company) was part of a young syndicate of Mediohanca shareholders whose existence was kept secret from other shareholders. Shameless exploitation of asymmetry of information is obviously completely different from independence, but I am not sure Mediobanca's management is of the same opinion, at least from what can be under-stood from its behaviour. Lucio Izzo.

University of Rome

Rate cut not a prudent Back way of offsetting VAT rise then stimulating it when

From Prof Geoffrey E Wood.
Sir, The proposal that tax increases in the November Budget be offset hy a base rate reduction is gaining wide acceptance. Its attractions may seem ohvious, but there are drawbacks which have not, at least in public, received much

First the effect on prices. If the tax increase is hy means of VAT, this affects the underlying rate of inflation; in contrast, an interest rate cut affects only the headline rate. Second, what of the effect on demand? A tax increase may reduce demand, and an interest rate reduction increase it. But do they do so with the same time lags? If not, carrying out the proposal could easily lead first to slowing the

recovery is again under way. And third, the interest rate is used to control money growth. A cut in interest rates will make money growth higher than it would have been, in principle forever, until the cut is reversed. Output will be boosted first.

hut subsequent inflation will be increased. The fiscal change will have, at most, only a oneoff effect on demand. Is it prudent to neglect the longer-run. effects of monetary policy? certainly has not been in the Geoffrey E Wood.

professor of economics. City University Business School Frobisher Crescent,

Barbican Centre, economy when it is weak, and | London EC2Y SHB

Absurd to hold banks responsible

From Mr J C Munnery.
Sir, You reported that Mr
Tim Yeo, the environment
minister, is to tell leading
banks that the government
believes they have fire in the believes they have financial responsibility when lending monies to companies that pol-lute the environment ("Banks face liability for pollution",

October 13). This seems absurd, unethical, and inequitable. How can the lender be held responsible if he has no control over the purpose for which the asset is used. He may have financed it, but the lender is no more than

a supplier to the customer of money and financial services. So why not hold accountable those others who have supplied resources, like the utilities for power and telecommy nication, for example?

The assumption of respons hility appears too obscure to be maintained, and I guess the purpose is to effect some form of tax from the private sector. If so, the anthorities should come clean and say so. J C Munnery,

Eyeswell Villa, 8 Gaol Butts, Eccleshall, Staffordshire

Patent law puts EC generic drugs companies at disadvantage

From Mr Greg Perry.
Sir, in his article, "Cheap drugs attract the giants" (October 12), Paul Abrahams stated that "generic companies have proved increasingly aggressive in their ability to market drugs from the day of their patent

It should be pointed out that this situation has developed in the US because quick access to the market for generic medicines has been encouraged by law. Moreover, US patent law is markedly different from patent laws in the European Community, which operate against quick market access for generic medicines. Under US federal law generic

companies are given the right to make their lengthy research and registration work (ie premarket preparations) during the patent period. The right to work during the patent was given to US generic manufacturers as "compensation" for the patent extension given to the US research-based compa-

In most European Community countries, the right to work during the patent has either been judged to be illegal or remains ambiguous. Moreover, a recent EC regulation introducing extensions for EC pbarmaceutical patents failed to provide European generic manufacturers with rights sim-

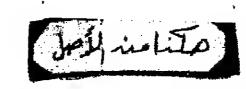
ilar to those enjoyed by US generic companies. Consequently, it can take European generic manufacturers up to three years after patent expiry before they can market their products. This imbalance in European

Community law has two major consequences. First, it under-mines European health policy by delaying the marketing of less costly generic medicines. Second, it leads to the absurd situation of giving US generic companies (whether independent or owned by one of the "giants") the potential to launch their drugs on the EC market before European com-

The situation arises because on the day of patent expiry a US company could be in the position of having legally com-pleted its research work in the US; while a European company will only have just been allowed to start its research

Europe's generic medicines industry has requested the European Commission to propose measures to amend this imbalance. However, the industry is still awaiting a reply. . Greg Perry,

European Generics Association, rue Lesbroussart 76,





FINANCIAL TIMES

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Down to the wire in Geneva

WITH LESS than two months to go to the date almost everyone agrees must be the ultimate deadline, the Uruguay Round multilateral trade negotiations still look like shadow boxing. As the talks on proposals to cut tariffs and improve market access rumble on in Geneva, the heavyweight pugilists - the US in one corner, Europe in the other - hover at the edge of the ring, withholding their serious punches until just before the final bell on December 15, whan President Bill Clinton's "fast-track" negotiating mandate from Congress expires. Given the rising political heat on both sides, the risk remains that the last bout will come too late to save the round from collapse, with grave

consequences not only for global free trade but also for the future

of the EC and of transatiantic rela-

It is hardly surprising in the circumstances that both the US and France - the Community's main recalcitrant - are expending as much time and effort in positioning themselves to blame the other for failure as they are putting into substantive negotiations. France aven suggested last week that some form of interim agreement could be struck by December 15, leaving controversial issues such as agriculture to be dealt with later. This is even less likely to succeed than France's forlorn campaign to reopen the Blair House farm trade accord with the US, and is so patently absurd that it makes one wonder whether the government of Mr Edouard Ralla. dur has a serious strategy for escaping from the hole into which it has unnecessarily dug itself over the Gatt. The whole point of the round is to achieve a balanced tial deal that excluded farm trade

Regrettable posturing

even temporarily would have no

attraction for many of the most

important potential signatories.

Such posturing is all the more regrettable since the differences between the US and the EC are now rather small, and the type of trade-off that will have to be made is already evident: for example, between Europe maintaining some estrictions on imported films and

ping industry. What is needed is the political leadership to patch such compromises together, and the salesmanship to trumpet them

as a breakthrough. Last summer, Mr Peter Suther-land, Gatt director-general, set out a clear timetable for resolving the remaining differences. Unfortunately, it is already showing signs of slippage. By last Friday, for example, bilateral negotiations on tariff levels for manufactured goods were supposed to have been completed. Yet the US, Japan, Canada and the EC are still hagg-ling over the fine print of a tariff deal they supposedly struck in Tokyo last July, and while the EC has promised to table a more generous tariff offer today, there still seems some way to go before that will be acceptable to the US or other trading partners.

Force the pace

On financial services, the deadline for agreement is the end of this month, but there too success is far from assured, with east Asian countries continuing to resist US pressure to open their markets. Formal negotiations on market access in agriculture - a separate issue from those covered by Blair House and a potential key to overcoming French recalci-

trance - have yet to begin.
All this matters deeply, it is essential for a successful conclusion to the Round that rapid progress be achieved on these issues, both for its own sake and to force the pace on farm trade. Only when the US, EC and other parties have reached sufficient agreement in a sufficient range of other areas will they be in a position to grapple plausibly with this problem.

At that point, Mr Balladur will need a ladder to climb down, and it will be for his European partners to provide it - by warning France of the consequences for the Community and in particular for Franco-German relations if he fails to sign, and probably by fur-nishing further assistance for French farmers from the EC budget. Faced with such sticks and carrots, it is hard to believe that France would fail to grasp the wider benefits of a Uruguay Round accord. It is in all the parthe US being permitted to pre- moment of truth is not much lon-

Back to work at Westminster

THE ROAD to the restoration of being reduced, under Options for the British government's authority is still a long and painful one. The next stage begins today, when Parliament returns. The most that can be said so far is that the government has not fallen apart. If it is to do better than that, it must hold its nerve and show that it is possible to make its decisions stick. That requires unity on its own benches. The Conservative party must dacide whether it wants the responsibility of office or the luxury of a period of opposition, in which it might freely indulge its post-Thatcher propensity for ideological hickering.

After the formal business of the

cabinet was concluded last Thursday, minieters congratulated themselves, and the prime minister, on what they saw as a successful party conference. What actually happened at Blackpool was thet various threatened disasters did not take place. The publication of Lady Thatcher's criti-cisms of Mr John Major did less damage to her successor than had been feared. Mr Major himself survived unscathed; his leader's speech, which relied heavily on nostalgia, was well-received by an audience primed to be receptive. A facade of unity was erected on tha flimsy foundation of a number of speeches attacking various scape-goats for the government's failures: criminals, unmarried mothers, pornographers, foreign dependents on British social security and the like.

Deep hole

This may not leave a pleasant taste in the mouth, but it served its purpose, which was to get the government through a difficult week. Mr Major remains, however, in what the chancellor, Mr Kenneth Clarke, has called a deep hole. The man with the heaviest responsibility for the rescue operaation is Mr Clarke himself. As mat ers stand, he is in the deepest hole of all, £50bn deep. His Budget on Novamber 30 will be judged in part by the extent to which it reduces that deficit. Whatever he decides to do is likely to be opposed by one lobby or another, as today's debate on defence is likely to demonstrate.

A government that cannot withstand lobbies is no government at all. The defence budget is already

Change, and the defence secre-tary, Mr Malcolm Rifkind, appears likely to offer up politically moti-vated "unthinkable" cuts in an effort to protect his department's bottom line from further raids. There is a strong case for a fur-

ther challenge to the defence bud-get, as the wider review of public spending unfolds in the next three years. The possibilities of merging Britain's defence responsibilities with those of European allies have not been fully explored. The ambi-tions of the forces chiefs are still attumed to an earlier age. There is a limit to what can be afforded by a modest country lika Britain, which still maintains tanks it cannot keep in good repair and which it could not protect in wartime

Radical change

The defence secretary insists that spending must be tailored to the demands on the forces deployed. He wants a review before any further deep cuts. The chancellor might call Mr Rifkind's hluff. He could try setting a low figure and asking the ministry to demonstrate what commitments it could meet with that. This would be a radical but necessary change in the order of determining the budget for the only high-spending department that is not protected by election promises (health) or sheer numbers of genuine dependents (social security).
Other politically difficult deci-

without the assistance of allies.

sions remain to be taken before the Budget. The government appears to ha soft-pedalling on British Coal's pit closure programme. This may buy a few doubtful weeks of political peace, at a cost of larger stockpiles and lower coal sales later on. It seems to be wavering on the details of rail privatisation, particularly the House of Lords amendment allowing British Rail, the management that got the railways where they are today, to bid for the privatised lines. This is government by par-

Mr Major needs to demonstrate that he and his colleagues can be as effective with a majority of 17, plus nine Ulster Unionists, as his predecessor could with majorities four and five times as large. The question is, will his party allow him to do so?

n the 23rd floor of the London Stock Exchange tower, the walls are lined with portraits of former chairmen. From their ornats gilt frames, past generations of grandees gaze down on the City with an air of haughty self-assurance, untouched by doubts about the

when the present chairman, Sir Andrew Hugh Smith, sits for his portrait ahead of his retirement next year, the artist is unlikely to capture such an air of serene complacency. Like other etock exchanges round the world, London's faces unprecedented commercial don's faces unprecedented commer-cial challenges. Unlike its overseas rivals, however, tha London Stock Exchange also faces a crisis of confidence.

The people whose confidence matters most to the exchange - the markatmakers and hrokers who form its membership, and the investment institutions that buy and sell the bulk of the shares traded - are happy with tha day-to-day work of the exchange. Their concerns cover just the area about which the chairmen in the portraits were so sublimely confident: the future role of the institution itself.

One incident crystallises these doubts: the ignominious failure, earlier this year, of the stock exchange's ambitious Taurus project to computerise the settlement of stock market bargains. Because of that failure, the exchange lost its chief executive, Mr Peter Rawlins, and has all too publicly failed to

find a replacement. Worse, Mr Rawlins's departure led to the abandonment of his elaborate vision of the exchange's future and, again, there is no substitute in sight. The vision was abandoned partly because it offended the big marketmaking firms. Tensions between them and the stock exchange's management also led to a row over whether the exchange could be trusted to deliver its next big computer project, rebuilding the Seaq trading system.

When City figures discuss tha future of the stock exchange, tha conversation usually revolves around these unique local issues. But the biggest challenge it faces is the problem it has in common with the rest of the world's stock market bodies: the commercial threat from rival trading systems.

In London, these competitors include Reuters' Instinct system, Tradepoint and Posit, all offering investors or marketmakers an alternative price display mecha-

It is the threat they pose that is the real issue at stake in the debate over the future of the London Stock Exchange. And the exchange knows

Its counter-attack has already started. "Those who provide marketplaces ought to have regulatory obligations," says Sir Andrew Hugh Smith, chairman of the stock exchange. The emerging competitors, Sir Andrew argues, could not operate without the stock exchange's presence as the central bulletin board for posting prices, and without its role as a regulator. "These exchanges can't operate without a price formation system. They are parasitic," he

says.
The stock exchange has asked the Securities and Investments Board to review the regulatory oversight it gives to all exchanges operating in tha UK. Sir Andrew argues that the London Stock Exchange cannot compete on the same commercial basis as the newcomers because they do not have the regulatory duties, such as surveillance and maintenance of listing requirements, that it has.

What particularly irks Sir Andrew is that, unlike his institution, which is treated as a Regulated Investment Exchange under securities laws, Tradepoint and other competitors only need to meet the much simpler requirements applying to those defined as service companies. The stock exchange cannot afford to have its most profit-able activities "cherry picked" by competitors, he says. The London Stock Exchange seems to have no clear strategy for resisting rivals and handling technological change, says Norma Cohen

Surrounded by the hungry pack

deaf ears. The SIB has appointed Mr Jonathan Agnew, formerly chief executive of Kleinwort Beoson, to prepare a discussion document on the matter, among other

So far. Sir Andrew says that the competing exchanges account for well under 5 per cent of all trading activity. But evidence from the US suggests the London Stock Exchange is right to be worried. The New York Stock Exchange, as of last year, found that more than a third of the trading volume in all the stocks It lists actually occurs on a competing exchange, and its revenues have suffered

Like the New York Stock Exchange, the London exchange is building its case on what it believes to be an issue of public interest: the desirability of a unified, central marketplace for equities, rather than a proliferation of rival mar-kets. Only a single central market provides a guarantee that all participants will know about - and get the best possible price for their share transactions.

Not everyone accepts this case. "The exchange likes to say it is the central marketplace for securities trading," says one regulator. "Arguably it does no such thing." Indeed, the exchange, through its Seaq International system, is actively engaged in fragmenting the mar-kets in other countries by allowing marketmakers to post two-way prices there. The effect has been to draw business away from domestic markets, particularly in Europe, and attract the ire of local bourses. The exchange says that more than 90 per cent of cross-border European trades are conducted on Seaq International. "If central markets are so valuable, why are we promoting Seaq International?" the regu-

As well as issues of principle, there are also practical considerations. The new rivals offer facilities the London exchange cannot currently match. Its present Seaq system acts, in effect, as a bulletin board for marketmakers to post the constantly changing prices at which they are prepared to buy and sell securities in bulk. It is not interactive: It does not allow marketmakers to communicate directly with each other, nor even to co electronically that a bargain has been struck.

By contrast, Tradepoint, one of the exchange's emerging competi-tors, will operate an order-driven system in which marketmakers or institutions will be able to post prices anonymously. The system will be able to aggregate orders and present them in bulk to users, and will offer automatic trade confirmation. Mr Peter Bennett, chief execu-

The stock exchange cannot afford to have its most profitable activities 'cherry picked' by competitors

tive, says that it is intended that users will be charged roughly half of the 0.20 per cent fee now charged on bargains effected through the stock exchange.

The growth of new technology

and the growing institutionalisation of the market mean that the bulk of



the exchange's users could operate their own mini-marketplaces from their desktops, combining feeds from several competing trading

If the stock exchange is worried about the costs of its regulatory duties, should it not simply give them up, to compete more efficiently as a commercial entity? That is not in anybody's interest, says Sir Andrew. "Someone who is merely a regulator might make rules which harm the market," he says. And privately, exchange board members acknowledge that, without its regulatory role, it could no longer confer such a valuable imprimatur on companies listed on it and it would lose what is probably its most valuable competitive advan-

tage.

The stock exchange is getting little help from a UK government philosophically committed to promoting competition. As a result, it has surrendered its monopoly over the distribution of price-sensitive information about companies it lists. Also, it has announced it will no longer provide end-user termi-nals for information, in recognition of its inability to compete commercially with other providers, such as Reuters.

The good news for the stock exchange is that, broadly speaking, its users are emotionally committed to the maintenance of a central marketplace and helieve tha exchange is the best suited to operate it. Also, they are happy with the service it provides. Mr Geoffrey Lindey, vice-chairman of the invest-

The chairman says that, in spite of the Taurus debacle, the exchange should continue to have a role in settlement

ment committee of the shareholders' group, the National Association of Pension Funds, says: "I can't think of any major change we would make.

"We don't care how the service is delivered; what we want is a well-ordered, regulated market which provides liquidity and trans-parency. And liquidity is number one." But such satisfaction does not mean that the leading institutional investors will never defect from the stock exchange to the new technologies, if they perceive additional benefits to be gained there.

If this commercial challenge is

the greatest long-term threat to the exchange, the shorter-term prob-lems loom at least as large in public

The inability of the stock exchange to replace Mr Rawlins has given the impression of an institution adrift. Sir Andrew is due to retire in November 1994, and leadership at the top remains a question.

When Mr Rawlins left, the grange also abradoned his con-

exchange also abandoned his con-troversial vision of the way forward for trading in London. He urged a three-tier market, with large liquid European stocks traded using a marketmaking system in which dealers agree to make two-way prices at all times. Large domestic stocks would be traded in this fashion as well. Smaller stocks could be traded on an "order-driven" basis, where those wishing to buy or sell would post their offers. Small illiqund stocks could be traded using a "specialist" system similar to that

"There is no demand for the Rawlins vision," Sir Andrew says. "That does not mean that 10 years from now there won't be." But what vision the stock exchange has of itself, as technology evolves and markets become more international, remains unclear. Sir Andrew says the exchange's main function is to provide a maans of converting long-term savings into capital and to help companies raise capital as cheaply as possible. That means running an efficient and orderly market where "we encourage investors to put up money knowing they can get it hack when they

nd settlement is part of that, he says. The Bank of England is now beading a project to produce a successor to Taurus, Sir Andrew believes that in splte of the Taurus debacle, the exchange chould continue to have a role in settlemaot, either through representation on the board of the entity that emerges from the Bank's study or through partial ownership. Yet the Bank has suggested there is no role for the stock exchange to play in settle-

Despite the Taurus affair, the exchange seems reluctant to give up the idea that it should be in the business of building systems, not just operating the commercial systems of others. Several board members revolted earlier this year over the exchange's plans to build a successor to Seaq with the help of Andersen Consulting. Instead, they wanted a cheaper option proposed by Nasdaq, the US-based exchange which is also updating its technol-

Eventually, Sir Andrew, who championed the home-grown system to be known as Seaquence, got a majority of board members to approve the home-grown system, but not without deep misgivings on the part of several.

The new system, Sir Andrew says, will be adaptable to what may be the future of the stock exchange: a bifurcated market with different terms and different regulations for professional and retail investors. Privately, several board members helieve this is the route the exchange should be pursuing. Yet it may suggest higher costs and poorer prices for retail investors, and so may be politically unpalat-

Amid these uncertainties, the exchange's visioo of how it intends to adapt itself to increasing competition and a technological revolu-tion remains unclear. If it fails to develop a coherent view of how it is to survive, it risks the drift towards irrelevance which befell other once-glorious City institutions, such as the discount houses, the Port of London Authority, and Lloyd's. After all, they had walls full of por-

OBSERVER

Wachsing lyrical at VW

■ Otto Ferdinand Wachs has at last been awarded the label to accompany the job he has been doing for the past three months. Now named as head of public

affairs at Volkswagen, Wachs has formally taken over the role of Lutz Schilling, the ill-fated former group spokesman.

Schilling carries the can for the public relations catastrophes incurred in the fumbled defence of both the group and production director José Ignacio López de Arriortúa, against accusations from rival carmaker Adam Opel.

It was Schilling who sat at the side of Ferdinand Piech during the esome summer press conference in Wolfsburg, at which the VW chairman's bellicosity earned him public reproaches from Chancellor Helmut Kohl.

Now Schilling will occupy himself with less strenuous matters, such as corporate identity and motor sports. His toughest immediate task will be steering next year's VW sponsorship of a European tour by the rock band, Pink Floyd.

Wachs is former press chief for the VW car marque. His snappy dress and a penchant for Italian wine bars - both rarities in VW country - have earned him the soubriquet "the Wolfsburg yuppie" in some quarters. But Wachs is one of the few

old-guard VW senior managers to survive and be promoted by Piëch. Moreover, during the recent hull in the Opel-Lopez affair he has guided his fractious boss through a series of image-restoring

Booked up

Considerable cash is tied up in Lady Thatcher's memoirs; little of it went into distributing the tome to those journalists who waited to receive their copy on the due day. Cold scribblers assembled outside

the Press Association building in Fleet Street yesterday morning to be given advance copies. They were greeted by a solitary

young woman, whose job it was to hand them out, check the orders, and then place the books into envelopes. Reviewers kicked their heels outside for half an hour. Impatient queue-jumpers were accorded appropriate Thetcherite

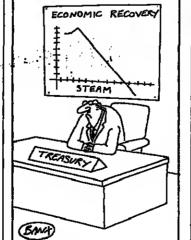
treatment; they were ejected back

Flaw space

on to the street.

An Englishman's home is his castle. Keith and Mary Baker were determined to defend theirs. In April local councils across the UK introduced the replacement for the much hated poll tax, one of the then Mrs Thatcher's less

successful ventures into social



The new tax bears the rather anodyne name "council tax". It works simply; the more valuable your house, the higher the level of tax you pay.

Many homeowners are protesting that their houses have been over-valued, and that the tax they must pay is therefore excessive. But from the Bakers'

Hertfordshire battlements came the protestation that they were paying too little.

They told the Journal of Public Finance that their appeal has a rational basis. A low valuation for tax purposes might mean they won't be able to sell their house

for the sum they want. Result? Happiness all round. The taxman gets an extra £100, money which the Bakers think is well spent.

Zola returns

US invasion.

■ The latest barricade behind which French politicians are mustering in tha interminable Gatt negotiations is not wheat but popcorn. They say French cinema is being engulfed by Hollywood. But they are drawing strength

from *Germinol*, Claude Berri's newly released film version of the tough novel by Emile Zola. In its first week in Paris. Germinal shot straight to number one, attracting an audience of 170,000. Its nearest rival - the Hollywood film The Fugitive - only managed 86,000. Germinal is now hailed as France's bulwark against

But the Parisian intelligentsia regarded as prehistoric in some quarters - faces a short-lived victory. Other dinosaurs - featuring in *Jurassic Park*, the movie – arrive in Paris on Wednesday.

Political priority

■ Peter Bottomley, the Conservative MP and former Northern Ireland minister, sniffs winds of change in Ulster. To help them along he now writes columns for the Irish News, a Belfast daily aimed mainly at the Catholic

community in Northern Ireland. Tom Collins, the paper's editor, hopes to heal sectarian divisions by employing a diverse bunch of

columnists.
Bottomley's columns preach reconciliation between religious. political and ethnic enemies, in

Northern Ireland and elsewhere. He accepts that chances of his writing having much impact on political extremists are slim. "But you always live in hope," he says. More hope than tact perhaps. For in one column he writes: "Why is the turnover among party leaders in Northern Ireland so infrequent? and continues that if there " seldom a change of leader, political

change may be more difficult". That sort of thing may not go down well with his fellow Irish News columnist and Ulster politician. Ian Paislev.

Clerical error

Britain's two main opposition parties, Labour and the Liberal Democrats, eagerly rushed out statements congratulating Nelson Mandela and F.W. de Klerk on their joint winning of the Nobel peace prize on Friday. But more haste, less speed; both

spelt the South African premier's name incorrectly. John Smith, the Labour leader.

plumped for "de Clerk", while Sir David Steel, Liberal Democrat foreign affairs spokesman, settled on "DeClerk".

FINANCIAL TIMES

Monday October 18 1993



Curb on blood products may spark trade dispute

By Clive Cookson, Science ditor, in London

A FRESH trade dispute Is hrewing as the European Community moves to restrict and eventually han imports of US blood plasma and related products, currently worth \$650m a

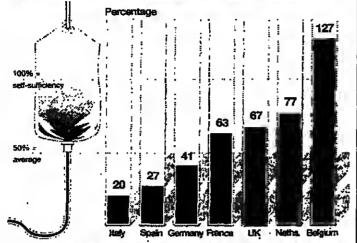
Plasma importers are lohhying hard in Brussels against the pro-posed restrictions - and the US government is preparing to intervene on their side if necessary.

The EC in 1989 adopted the goal of eventual "self-sufficiency through voluntary unpaid donations" after blood products, mainly from the US, infected several thousand Europeans with the Aids virus, HTV. But until this year, little had been done to implement the policy. Europe uses 6.3m litres (11.1m

pints) a year of plasma, the clear protein-rich fluid in which blood cells float. Half of this comes from paid American donors. Most is shipped as frozen plasma from which medical products such as Factor VIII, immunoglobulins

and albumin are extracted. Prompted by resolutions in the European Parliament, the Commission is backing measures to boost production from volunteer donors and phase out imports. These will be considered by EC bealth ministers in December.

Three countries - Belgium, France and the Netherlands - are leading the way with national legislation to ban products from European lifeline: plasma self-sufficiency



paid donors. They are already self-sufficient or nearly so. Germany, Italy and Spain are far more dependent on imports.

Advocates of self-sufficiency

and voluntary donation include the Red Cross and most national blood collection agencies. They say that paid donors are more likely than volunteers to be infected with sexually transmitted and blood-borne viruses and that paid donation unfairly

On the other side are commercial manufacturers, who claim that procedures for screening plasma and eliminating infection

are superior in the US. Mr Bob Reilly, executive director of the International Plasma Products Industry Association, said: "From our point of view, European 'self-sufficiency' is a trade barrier and any attempt to stop \$650m worth of US imports on 'safety' grounds is unjustified protection-

Caught in the middle are patient groups such as the European Haemophilia Consortium, which supports self-sufficiency from unpaid donors as a long-term objective, but rejects "any unrealistic timescale for implementation" that would dis-rupt supplies of Factor VIII.

BBC issues writ in global TV row with News Corp

By Raymond Snoddy, in London

BBC World Service Television has issued a writ against Mr Rupert Murdoch's News Corporation in an increasingly bitter row hetween the two organisations over the expansion of global tele-

The BBC acted after Mr Murdoch's lawyers threatened to terminate its 10-year contract with the Murdoch-controlled Star TV

Mr Murdoch's lawyers threatened to cancel the deal if the BBC went ahead with plans to launch an Arabic language televi-sion news service for the Middle East early next year.

The legal clash reflects the intensifying battle in the growing market for global satellite television. Mr Murdoch plans to take
Sky News, 50 per cent-owned by
Separate London studios and

News Corp. around the world particularly to Asia. He wants to blunt BBC television's ambitious plans to launch services in local

languages around the world.

Mr Bob Phillis, chalrman of World Service Television and deputy director-general of the BBC, said last night: "It is an essential part of our future strategy to develop World Service Television as a global news and information service."

BBC World Service Television has agreed with a leading Middle East industrial group to launch a 24-hours-a-day Arabic news service. The service, which is likely to be worth about £200m over 10 years to the BBC, would be carried on the Arabsat satellite. It would be available throughout north Africa and the Middle East.

strengths of the BBC World Service Radio's Arabic service.

News Corporation's executives were unable to comment last night hut the company is likely to argue that the areas covered by Arahsat overlap with the areas covered by Asiasat, the satellite that carries Star TV.

The BBC has taken legal action in the Chancery Division of the High Court in London "to clarify Its relationship" with Star TV. The Corporation has issued a writ seeking a formal declaration from the court that the contract allows it to go ahead with the proposed Arabic channel.

BBC executives believe there is no connection between an English language service for Asia and an Arabic language channel for north Africa and the Middle

Russian parties to advocate reform

By Leyla Boulton in Moscow and Gillian Tett in Novgorod

TWO powerful electoral blocs to compete in Russian parliamen-tary elections on December 12 were formed vesterday.

Russia's Choice, promptly dubbed "the ruling party" hy its critics, was established in Moscow by supporters of President Boris Yeltsin. Deputy prime minister Sergei Shakhrai set up a rival Party of Russian Unity and Accord in the town of Novgorod. Both parties will be competing for the pro-reform vote.

Under the slogan "Stability, Family, Property and Mother-land", Mr Shakhrai is advocating market reforms devoid of radicalism, and the transformation of Russia into a genuine federal state devolving economic power

to the regions.

Mr Victor Pribodin, an official from Ryazan province, summed up the mood of the delegates in Novgorod: "The regional issue is the key issue now. We are fed up with being dictated to hy leaders in Moscow."

Mr Yegor Gaidar, first deputy prime minister responsible for the economy who is the leader of Russia's Choice – an electoral bloc grooping several "democratic" parties and movements promised a radical platform of nnpopular but vital economic reforms. Its trump cards include unrivalled access to state-controlled media and an extensive provincial network run by Demo-cratic Russia, the country's big-gest collection of anti-Commnnist parties.

Its symbol is Peter the Great, the great reformer whom President Yeltsin likes to compare himself with. Its motto is "Freedom, Property, and Legality".

Claiming that financial snpport came exclusively from the private husiness sector, organisers denied suggestions that Russia's Choice would enjoy unrivalled access to government funds, But with the majority of the cabioet included in the movement and 11 ministers and presidential advisers leading its elec-

toral list, it is difficult to see how this cannot be the case. A fourth pro-reform bloc is being formed hy Mr Grigory Yavlinsky, the prominent economist who has his eye on later presidential elections.

More conservative forces, including neo-communists and nationalists, are also considering alliances in the run-np to the

THE LEX COLUMN

Assured of a future

Wednesday's vote on the introduction of corporate capital is as close as Lloyd's will get to a make-or-break decision. Rejection threatens the resignation of Lloyd's management. Even a delay would scupper the introduction of corporate memhership for 1994. While that would give disaffected Names time to press for settlement of legal claims, there is little doubt that potential providers of corporate capital will look elsewhere to take advantage of the turn in the cycle.

The immediate need for corporate capital looks less acute than earlier in the year. Individual Names have not deserted in the numbers anticipated. Capital from that source next year is likely to be only a little lower than this. The spate of Bermuda reinsurance companies will also underwrite London market risks.

It is possible that the introduction of film in corporate capital will contrib-ute to a softening of rates in popular areas such as motor. But it is difficult to argue that blocking corporate capital is the best way to tackle the prob-

The 1991 underwriting year will hring further large losses for existing Names. New Names may not come for-ward in future even if the present generation keeps faith. In the long run Lloyd's needs new sources of capital to maintain critical mass. The market's management should certainly reaffirm its commitment to rationing the inflow of capital.

The onns is also on managing agents not to accept more capital than can be profitably allocated to syndicates. Preventing periods of feast and famine requires commercial discipline and increased professionalism. A vote in favour of the introduction of corporate members would be a large step in that direction.

UK electricity

National Power and PowerGen have sensibly kept a low profile in the most recent debate about the future of coal. The two generating companies did nicely from the deal struck in March, and the reduction in coal stocks will allow them to reduce working capital substantially in coming years. There was, however, an expectation that they would take extra coal to support some mines, and while the encroachment of competing fuels provides some excuse, their reluctance to do so will have won them few political

That comes at a time when electric-



80

75

ity pool prices and the generators' market dominance is under investigation by the regulator. He is under pressure to act against the generators because spot prices have risen. National Power and PowerGen can point to their declining market share, but they still control all of the marginal plant which dictates the pool price. If the regulator decides that such market power is unacceptable he faces a choice of devising a market solution to solve it or making a reference to the Monopolies and Mergers

Cynics have suggested that no reference will take place while the government still wants to sell its 40 per cent stake in the generators. Yet a reference remains a real possibility since market solutions will not be easy to find. Those who are pencilling in a secondary share offer for next July may just be in for a disappointment.

UK property

When the main reason for believing shares will go up is based on the view that everyone else believes they will go up, it is probably time to sell. For that reason, there is room for nervousness about the UK property sector. By most objective measures, property shares have raced up too far, too fast. With the FT-A Property sector having risen 2.3 times since Black Wednesday, property shares should at least linger a while for the underlying fundamentals of the property market to

But such caution takes little account of the abandon of fund managers with asset allocation targets to meet. The short-term yield attractions of hoth property shares and direct property is still enticing investors into both markets, creating a virtuous circle of demand. Property companies have hardly been slow to exploit the favourable sentiment by tapping shareholders for some SI ton this year. But even that has seemingly not dampened the ardour.

Any cuts in interest rates fuelling equities and lowering dividend yields could lead to another upward spurt in property shares. But for the run to be sustained much further will depend on prospects for income growth. Although the rental market may be bottoming out, growth is unlikely to resume before 1995.

In the meantime, property shares will be vulnerable to jolis. A reversal of interest rate trends would be a nasty surprise. Any concrete proposals from the government to alter upwardsonly rent reviews could also precipi-

BAT Industries

BAT Industries' shares are only a shade below the level from which they fell on Marlboro Friday in April if Philip Morris can take the blame for the derating - thanks to its strategy of discounting - it is also partially responsible for the bounce. Investors have decided that the US company is cheap dragging BAT up in sympathy. To the extent that US cigarette prices have stabilised it is certainly easier to take stock of the damage. BAT's operating margins in US tobacco have fallen by 10 percentage points. Profits from that husiness are likely to fall by more than half this year.

It seems too much to hope that cigarette prices might soon be on the up. Even the reduced margins now being earned are respectable by the standards of other markets.

President Clinton's proposed.

tobacco tax remains a threat. A tax anywhere near the \$1-a-pack suggested would accelerate the shrinkage of the US cigarette market through the second half of the decade. While pricing pressures remain, it will be difficult to use the increased duty as cover for widening margins.

The comfort is that US tobacco will probably account for less than 20 per cent of BAT's profits this year, down from 45 per cent at the end of the 1980s. The balance of risks now lies squarely in financial services, where BAT is enjoying better luck. Even at around 500p it might be argued that the shares do not reflect the full value of Eagle Star, Allied Dunbar and Farmers - but that seems an occupational hazard for a conglomerate.

Market Blad

Bonn cereals dispute

Continued from Page 1

of cereals which was unexpected. Although Chancellor Helmut Kohl has written to Commission president Jacques Delors defending Germany's case, Brussels regards this posture as an

infraction of EC law. If the dispute is not resolved, legal action could resnit, and Brusseis says it will claw back any illicit German aid at the endof-year clearing of accounts in financial flows between the Commission and member states.

Threat to 400,000 jobs

Continued from Page 1

already taken drastic action to cut the number of their direct suppliers from around 1,250 on average in 1988 to 900 now, but the total is expected to drop to around 400 hy 1997.

The greatest challenge to improve productivity in the industry lies among the second-tier suppliers, often small and medium-sized companies "where awareness of means to improve competitiveness is least advanced", says the report.

Europe today A high over the British Isles, northern Germany and Poland will cause cool but sunny weather in north-western Europe. During the night, the temperature will drop below freezing. Fog banks may develop. Clouds and rain will affect northern Ireland and Scotland later today. Rain is expected along the Norwegian coast, but this will fall mainly as snow inland. Winds will reach gale force from the south-west along

In the Mediterraneen countries, it will be mainly sunny except for parts of Spain where clouds will occasionally cover the sun. In northern Italy and in the Balkans showers may

Five-day forecast

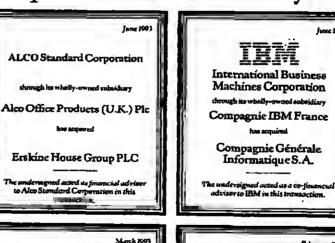
High pressure will remain dominant later this ek. It will stay mainly sunny and dry in north-western Europe. However, on Wednesday it will turn cloudy with soma isolated showers.

From Wednesday a new high will develop over the Atlantic, causing calm weather later this week. Unstable conditions in the western parts of the Meditteranean will cause showers along the eastern coast of Spain and in southern France. Snow will persist over Scandinavia

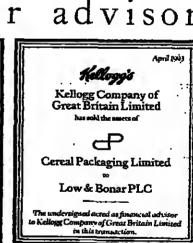
FT WORLD WEATHER

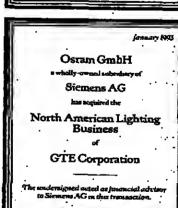


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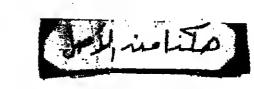
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INSIDE

French privatisation shares set to rise

Shares in Banque Nationale de Paris, tha bank spearheading the French government's privatisation programme, are expected to rise to a premium when they start trading this morning. Page 20

Samsung eyes Kia

Kla Motors, South Korea'a second largest vehicle manufacturer, may become the target of the country'e first takeover bid. Samsung, the big electronics conglomerate, has increased its shareholding. Page 20

Bad time for Sculley

John Sculley, who had hoped to orchestrata a graceful departure from Apple Computer after 10 years at the helm of the personal computer company, was last week forced into an abrupt resigna-tion. A yeer ago, he might have left Appla as a hero. Page 19

Mexico moves on mortgages The Mexican government is set to Introduce legis-

lation that will facilitate the development of a market in mortgage securities, Page 19

Passion in home furnishings



Vittorio Radice (left), managing director of Habitat UK, hopes to display his vision for the home furnishings retail chain with the opening of tha revamped flagship store on the King's Road in Chelsea, London. Ha will attempt to convince cusfuture lies in recapturing its past, "Wa have put one word back into the equation - passion," he says. Page 18

Judgment expected in B&C case

A High Court judge is expected to award substantial damages today against Samuel Montagu and Cuadrex Holdings in the long-running litigation brought against them by British & Commonwealth, the financial services group that collapsed in June 1990. Page 18

Former 3i head for Tring

Alan Wheatley, former chairman of the 3i venture capital group, is to become chalrman of Tring International, the UK publisher and distributor of cut-price compact discs and cassettes, ahead of a planned listing. Page 18

Market Statistics

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Companies in this issue

Apple
BCI
BNP
Boeing
Bristol-Myers Squibb
Brit & Commonwealth
Credito Italiano
Guoco Group
Habitat
Havas
Hongkong Land

News Corp 1 OTB 18 SGS Samsung Samuel Montagu 18 Stichting Ingka 20 Trafalgar House 17 Tring 20 Wellcom

Patient deaths pose threat to Zovirax rival

By Paul Abrahams in London and miko Terazono in Tokyo

SUPPLIES of Usevir, the only licensed effective competitor in the world to Zovirax, Wellcome's berpes and shingles treatment, have been halted in Japan following three deaths among patients.

The development is a severe hlow to Bristol-Myers Squibh, the US pharmaceuticals group which in 1989 acquired the global marketing rights for the drug, excluding

Usevir, also known as Byarau, was only launched on September 3. Industry analysts expect the medicine to be withdrawn completely from the Japanese mar-

The medicine has reached latestage clinical trials in the US and is one of the most important compound drugs in Bristol-Myers Squihh's pipeline. The company believed the drug was capable of generating revenues of \$1hn by the late 1990s The group urgently needs new

products because the US patents of the heart-drug Capoten, its top-selling medicine with revenues of \$1.6bn, expire in 1995.

The Japanese company with marketing rights to Usevir is Nip-pon Shoji, the Osaka-based pharmaceuticals wholesaling group. The rights were acquired from Yamasa Shoyu, a small Japanese company which invented Usevir.

Nippon Shoil had boped to gain a significant share of Japan's Y25bn (\$235m) shingles market, currently dominated by Zovirax. The deaths in Japan are under-stood to have heen caused by simultaneous use of Usevir with an anti-cancer agent called fluorouracil. The incidents are in spite of warnings on the drug's packaging against not to use the

medicine with certain anti-cancer The Japanese Health and Welfare Ministry has ordered Nippon Shoil to dispatch emergency instructions to medical institutions warning against the use of the drug with fluorourseil, prescribing the drug to patients who have been treated for cancer, and

prescribing the drug to patients taking medication which cannot be confirmed. Nippon Shoji has also sent staff to warn of the dangers of the side

Roland Rudd looks at issues behind the Lonrho board dispute

HE disagreement between Mr Tiny Rowland and Mr Dieter Bock over the appointment of non-executive directors to Lourbo is more than an arcane dispute over corporate

governance.
If tomorrow's board meeting gives the go-ahead to the appointments, the balance of power within the company would swing irrevocably in favour of the Ger-man financier. It would also signal a radical shake-up at the top of the company. The new direc-tors would establish an audit committee to monitor its financial performance and take a fresh look at the remuneration of existing executive directors.

Adding to the uncertainty is the fact that the board opinion is finely balanced. The allegiance of Mr Rene Leclezio, Lonrho's chairman, is not in doubt, but Mr Rowland can only be confident of retaining the continued support of enough other directors to give him a majority of one on the 12 man board.

It is a far cry from the arrival of Mr Bock when he acquired his 18.8 per cent stake at the start of the year. Then the joint chief executives described themselves as "indivisible"

Mr Bock left the delicate task of changing the board's structure until after he had completed restructuring most of the group's complicated mix of businesses. Restructuring had the enthusias-tic support of Mr Rowland, who has been able to spend more time in Africa. Mr Bock was confident that Mr Rowland was ready to approve the appointment of two

non-executives.

But a board meeting earlier this month put off a decision under pressure from Mr Rowland who falt the full-time directors should first meet Mr Bock's proposed non-executives.

If tomorrow's board meeting does not approve the appointment of Lonrho's first non-executives for two decades, Mr Bock may put the issue to sharehold ers at an extraordinary general meeting. He would only risk this as a last resort since it would publicly set the two men against each other.

Some analysts are surprised Mr Bock did not expect opposition from Mr Rowland. The latter has been opposed to non-executives ever since the "straight eight" directors unsuccessfully tried to remove him in 1973. However, earlier this year, he

indicated his support for the "right" candidates who would make a positive contribution to the running of the board. Then over tha last few months internal politics began to give the

issue a new significance. Key Lourho directors began to shift their loyalty from Mr Rowland, who has run the group for more than 30 years, to Mr Bock. The beginnings of a split have

A friendship splits over the way forward

LONRHO'S blg institutional shareholders have given unequivocal support to Mr Dieter Bock's attempts to stamp his authority on the conglomerate with the appointment of nonexecutive directors.

The German financier, who was appointed earlier this year as joint chief executive with Mr Tiny Rowland, remains confident that tomorrow's board meeting will accept his nominated nonexecutives: Mr Patar Harper,

Mr Bock has had support from four hig institutional sharehold-ers: Fidelity Management Research, the US investment fund, with a.9 per cent; Genting, one of Malaysia's higgest companies with 3.9 per cent; PDFM, the Union Bank of Switzerland fund management arm with 2 per cent and Postel, with 1.5 per cent.

uty chairman.
Yet Mr Bock was still taken by surprise at Mr Rowland's decision to delay the appointment of non-executives. Mr Rowland had announced in January that he was planning to retire in three was planning to retire in three years. He also continued to say that Mr Bock's appointment as joint chief executive had solved the group's succession problem. But the 75 year-old entrepre-neur has a habit of falling out with old friends.

two of his most loyal directors: Mr Robert Dunlop and Mr Paul Spicer. Two years ago Mr Row-land promoted them to joint dep-

After Mr Rowland won his battle with the "straight eight" he became friends with the Kuwaiti Sahab Brothers, Sheikhs Nasser and Hamed, who took a stake of about 26 per cent. But in 1975 they sold their shares after many of their demands, including the appointment of non-executives.

had been ignored. Even Mr Mohamed Al-Fayed, who Mr Rowland never forgave for winning control of the House of Fraser, was once a friend and appointed to the Lonrho board.

Mr Rowland will soon be 76, though, and may not relish the prospect of another row. Furthermore, Mr Bock remains emollient, softly-spoken, and respect-ful of Mr Rowland, which may lessen the chances of a feud.

This is part of the reason why Mr Bock remains confident that Mr Rowland will tomorrow agree to the appointment of the two nominated non-executives.

A number of Mr Rowland's close directors, however, are unlikely to urge him to agree to Mr Bock's demands. They are aware that new directors would radically change Lonrho. The non-executives plan to join

the group's remuneration committee and re-evaluate directors pay. They will also determine what to pay Mr Bock, who has not drawn a salary since becom-ing joint chief executive. They would almost certainly

hring an end to Lonrho's practice of allowing directors to draw their pension as well as their salary when they reach 65. Mr Roland, Mr Leclezio and Mr Spicer are all understood to he drawing their pension as well as their annual salary.

They will also set up the company's first audit committee. A reduction in the estimated £20m (\$30m) annual costs of running the headquarters is likely to be one of its first tasks. One way to achieve this would be to cut head office staff from the current 160 and to cut executive board members, currently 12. by half.

Mr Rowland's closest directors are not eager to vote for the appointment of non-executives who may basten their own denarture. The outcome will depend on whether Mr Rowland is willing to cede control of the company he has dominated for three decades.

Trafalgar plans third rights issue

By Roland Rudd in London

NEED for yet more write-downs on its property portfollo will this morning lead Trafalgar House to announce a rights issue of up to £400m (\$600m) its third cash call within two years.
The UK construction and engi-

neering group, in which the Jardine Matheson-controlled Hongkong Land has a 25 per cent stake, will also confirm that Mr Allan Gormly is to stand down as chief executive next August to become chairman of Royal Insurance. He will remain on Trafalgar's board.

He will be replaced as chief executive by Mr Nigel Rich, managing director of Jardine Matheson in Hong Kong.

The group's advisers, Rohert Fleming and Schroders, have recommended that the group strengthen its balance sheet by asking its shareholders for money instead of making "fire

sale" disposals. Although Trafalgar still plans to sell its hotels, including the Ritz, it will do so when the market improves.

The issue is needed because of

further property write-downs and the equity requirements for its growing engineering and construction division. The group's net debt varies from £250m to £500m on a seasonal basis. Trafalgar had hoped to wait until mid-December when it will

announce its full-year results to unveil its latest rights issue. But market speculation that It is planning to tap shareholders for cash forced it to bring forward its announcement to today. Shareholders may be weary at being asked for more finance for

their loss-making company. But Trafalgar is expected to argue that its new board, including a new finance director, Mr David Gawler, from Jardine Mathesbn, believes the company is significantly undercapitalised for the level of its business.

responsibility for finance, and Mr is the preferred starting time of developed on the board which UK leads in European cross-border takeovers

By Peggy Hollinger in London

BRITAIN hes jnmped slx places to first position in the European cross-border takeover league, with UK compa nies completing more acquisi-tions in Europe than their connterparts in any other country during the first nine

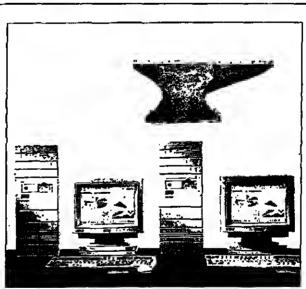
months of the year.
At the same time the rate of cross-border activity in Europe has declined in the first three quarters, reflecting deepening economic difficulties in many countries. Foreign acquisitions by German companies are expected to fall by as much as

50 per cent this year. A survey hy cross-border mergers and acquisitions specialist, Translink, shows British companies completed 160 deals in the first three quarters, against 158 for all of last

So far, 810 cross-horder deals have been completed by companies in Europe. Translink estimates that some 1,100 will be completed this year, a decline of 20 per cent. The company said yesterday Britain's aggressive cross-border activity appeared to confirm its emergence from recession. "It seems we are slightly ahead in the economic cycle,"

with a total of 215 deals for 1992, fell to second place with 156 acquisitions for the nine months. France holds third place with 121 deals, compared with 202 for all of 1992.

Britain also remains the most popular target, with foreign groups snapping up 150 companies so far, against 196 in 1992.



Nick Morrell, another director,

are already in their offices. The

three directors have formed a

In contrast, when Mr Rowland

is in London he usually arrives at

the the group's Cheapside head-

quarters at around 10.30am. This

strong bond with Mr Bock.

CUMMINCS -

broadly reflects the different

working patterns of the two chief

by 8.30am. By the time he arrives

for work he often finds Mr Robin

Whitten and Mr Philip Tarsh,

both accountants with special

Mr Bock likes to be at his desk

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Computers that change everything.

Kla Motors There was a lot of grumbling about "red tape" from farmers this year when they were asked to complete the complex forms needed to claim compensation for cuts in EC produc-tion subsidies.

But one farmer with 2,000 acres in Britain's rich cereal-growing region of East Anglia was determined to look on the hright side. He calculated that the payment he would receive for completing the 10-page document would amount to £12,500 (\$18,875) per page. Out of his total income of

£125,000 from the EC. moreover, he would be paid nearly £25,000 simply for not growing cereals on part of his land. As the first compensation cheques arrive through the post this month, it will be pos-

sible to see exactly how much

taxpayers' money goes to sup-porting each farmer. Undar last year's reform of the Common Agricultural Policy, ara-ble farmers receive cash in hand to compensate them for a 29 per cent cut in cereal support prices over three years. To be paid, however, they must leave idla, or "set asida," 15 per cent of their land.

The reform of the CAP was seen as vital to ending the worst excesses of agricultural protectionism. It was designed to pave the way for a Gatt agreement which requires the EC to cut the value and volume of cereal export subsidies by 36 per cent and 21 per cent respectively over six years.

But it is by no means certain things will work out that way. To begin with, snhsidlsing farmers for setting their land aside could run foul of tax-

Agricultural subsidies to producers alone cost EC consumers and taxpayers Ecu66hn (£51bn) last year, according to the OECD. Because member states have undertaken to cushion farmers from the cuts in cereal support prices, that overall hurden will remain much the same until and unless production falls.

Sowing seeds of doubt in the taxpayer's mind

highly visible payments, so taxpayers will be more likely to question the cost. Set-aside payments are due to rise to about Ecul 2hn in 1995. The farmers themselves

could also jeopardise the scheme. They dislike set-aside because it goes against their instincts for making the land productive. Critics of the scheme say it

was hampered from the start by the exemption of small farmers producing less than 92

However, as support shifts to they set aside each year for six years, so that 90 per cent of their arable land was left fallow at some point during the

> But It is now proposing under French pressure, to limit the schema to three years. Although the required setaside area would be increased to 20 per cent, only 60 per cent of land would go out of production during the lifetime of the schema. In other words, the richest land would probably remain untouched.

Meanwhile, there are already tonnes of cereals a year on tha **Economics Notebook**

By Alison Maitland

grounds that they would be unfairly penalised. This measure alone is estimated to reduce the overall set aside area from 15 per cent of EC

arable land to between 9 and 12 per cent. Experience in the US, where set-aside has operated since the 1930s, shows there are also inherent problems which lessen the chances of the scheme controlling output

• Farmers put their poorest land into set-aside Yields on the remaining land rise as farmers use more labour, machinery and chemicals to compensate for the lost production

• Yields increase when land enriched by fallowing comes back into production. To overcome the first of these problems, the European Commission initially required

farmers to "rotate" the area

signs that yields bave improved. The EC grain trad-ers' association. Coceral, estimates that average yields are up about 5 per cent compared with last year on a harvest that has fallen only about 3 per

cent to some 164m tonnes. Yields tend to increase hy about 2 per cent a year because of improvements in seed and fertiliser technology. The extra rise suggests more intense production, although it could be

partly due to better weather. Coceral estimates that the land in cereal production has fallen by only 7 per cent, lower even than the Commission's actual target of 8-9 per cent for

the first year. The Commission puts a brave face on all this, arguing the size of subsidies, especially that the policy will work better to the most prosperous of the as prices fall. Some arable EC'a farmers, the pressure for farmers may initially have even more radical change may found it worthwhile to forgo become unstoppable.

compensation payments in order to sell more crops. It says last year's barvest was poor and the fall from a more nor-mal harvest would have been closer to 8 per cent. Brussels also argues that the

problem of mora intensive farming on land in production will lessen as declining prices cease to cover the cost of extra

But the policy faces erosion on other fronts. The commission has agreed to allow fixed as well as rotating set-esida from next season provided 20 per cent of the farm is taken out of produc-

pects that only less fertile land will be affected. Sat-aside also depends on compliance. "If the problems the EC has experienced in enforcing its dairy quota - espe-cially in Italy where they simply were naver enforced . are any indication, then non-compliance could be a serious problem." says Mr Michael Herlihy. an economist with the US

Department of Agriculture, in

a recent paper on US and EC

tion. This increases the pros-

set-aside Cereal farmers know last year's CAP reforms may not be the end of the matter. Some fear they could face increased set-aside requirements as the winds of free trade begin to hlow into the EC's protected market. French farm unlons claim more than 30 per cent of land would have to be left idle to meet the requirements of the Blair House farm deal

between the US and the EC. The industry has long been regarded as a special case. "A free trade policy for cereal production is seen as a bridge too far for policy-makers and farmers," says Mr Michael Murphy. an agricultural economist at Cambridge University, in a recent paper.

Translink said. The US, last year's leader But as taxpayers begin to see

Court decision today over **B&Č** litigation

By Andrew Jack

A HIGH COURT judge is expected to award substantial damages today against Samuel Mnntagu and Quadrex Hnldings in the long-running litiga-tion hrought against them by British & Commonwealth, the financial services group that collapsed in June 1990

Mr Justice Gatebnuse will make public in the Commercial Court this murning his assessment of damages following bearings which finished in March this year. His ruling follnws an earlier judgment in May 1991 in which he deter-mined that both Samuel Montagu and Quadrex were liable to

pay damages to B&C. The litigation was triggered by the 1987 takeover of Mercantile House Holdings by British & Commonwealth, tha group now in administration. The acquisition relied oo an agreement that Quadrex, a Delaware corporation headed

by Mr Gary Klesch, would buy Mercantile's wholesale broking divisioo after B&C made a After the acquisition, Quad-rex did not have the funds to make the purchase, which led

to B&C hringing a claim of

of £200m against the abortive sale in 1988.

However, the judge ruled in 1991 that Quadrex could collect from B&C £20m-£30m to compensate for non-fraudulent misrepresentations during talks on the sale of its wholesale broking division.

B&C also claimed against Samuel Mootagu, Quadrex's financial advisers, for neglithe company by its head of corporate finance. Creditors to B&C are unlikely to receive any dividends as a result of the award in the next few months, because the original verdict is still on appeal. Early last year the adminis-

trators estimated that creditors to B&C Holdings would eventually receive dividends of 23p in the pound and those to B&C Group Finance 37p before the outcome of the litigation. Those iovolved in the trial

have agreed that any appeals from tomorrow's decision will be heard at the same time as the appeals on the original liability case two years ago. These hearings have been scheduled for January 1996. The costs to B&C alone have beeo more than £16m since to B&C hringing a claim of proceedings began following damages for hreach of contract the acquisition in 1967.

An attempt at reviving the Habitat habit

Swedish owner wants the home furnishings chain to return to its roots. Peggy Hollinger reports

R VITTORIO Radice, managing director of Habitat UK, whips nut a picture of six swarthy men inteot oo a serious game of boules. One lounges in a deck chair, munching his way through an overstuffed sand-wich. "This is what I use to describe what Habitat is all about," Mr Radice says. Under the photograph is a single word - comfortable.

Tomorrow Mr Radice hopes to paint a fuller picture of his vising for the home furnishings retail chain with something slightly more abvious -the opening of the revamped flagship store on the King's Road in Chelsea, London. Here in a 1930s cinema restored to its former Art Deco glory, be will attempt to coovince cus-tomers that Habitat's future lies in recapturing its past. "We have put one word back

That philosophy is shared by Stichting Ingka, the trust set up hy Mr Ingvar Kamprad, weden's guru of affordable chic and founder of the Ikea retalling phenomennn. It is ilmost a year to the day since the trust bought Hahitat's European operations from Storehouse for £78m.

ioto the equation - passion,

Mr Kamprad, like his UK managing director, believes the way forward for Habitat lies in returning to its roots as a

nishings at affordable prices. Recently he wrote to Sir Terence Conrao, Habitat's founder, to reassure him that Stichting intended to revive the spirit behind that first shop he opened on Fulham Road in

The mistakes of the past have been well documented Sir Terence Conran's original coocept lost its way in the midto late 1980s when new management sought to drive the company for dividend and vol-

while the continental businesses were left to follow their own path, the UK division had four management and strategy changes in six years, and made significant losses.

There have been few changes

since Stichting took over last year. Many of the most significant shifts - such as abandoning the out of town wastelands and returning Habitat to its high street roots - had already beeo launched by Mr Radice wheo he arrived from a Milanese furniture company in 1990. However, Stichting made what Mr Radice considers to be one of the most important decisions for the chain's future as an international brand. Within weeks of the takeover. Habitat's headquarters were moved from London to Paris. "Now we are seriously working to make this ooe husiness." Mr Radice says. "A global view and influences which form the can only [be achieved] if we hasis of their furnishings.



are run as one business." The two divisions will share an iocreasing proportion of products and ranges in their catalogues. Habitat UK's catalogue is already showing a greater emphasis on the simple, timeless furniture for which Hahitat was originally recowned and which the French business never aban-

The design teams of hoth divisions are also encouraged to share the colour schemes

Shared sourcing and distribu-tion are natural goals, which previously had been largely

Now, says Mr Radice; Habitat is back on track to make significant profits and is more focused oo the type of customer it wants to attract than it has been for years. "We want a customer with some passion, some heart," Mr Radice insists "One that has confidence to say THIS is the glass I like." Comfort will be the driving force behind the product offer,

rather than the creation of a

TARGET

BIDDERVINVESTOR

stylised look soch as that offered in Habitat catalogues of the 1980s. "Ours is a catalogue of ideas," Mr Radice says. That was a hardware cata-

logue."
Mr Radice says he is determined to recreate the atmosphere that made Sir Terence's stores so popular. "It should be a place to meet, not to buy," he says. Thus, the plans for an elegant but affordable cafe -Italian of course - above the King'a Road shop.

Habitat's commitment to opening new shops in unusual

CROSS BORDER M&A DEALS

SECTOR

sought out churches and cinemas for his original stores - is also part of Mr Radice's Habl-

While most welcome the shift in emphasis which has become apparent over the lest 18 months, there are those who warn of the dangers of becoming too focused on an image which does not have mass mar-

ket appeal.
"There is a fine dividing line between being focused and limiting your potential," says Ms Hilary Monk of the market research organisation Verdict.
Sir Terence agrees. While praising the group's success in "throwing off the Storehouse glooms", he says: "It worries me that Habitat has given up some of the very straightfor-ward, very everyday things we used to sell so success-

For the moment, however, Mr Radice has other things co his mind; most immediately. the relaunch of the King's Road site. To commamorate the occasion, he is frantically searching for the desert epic with which the Gaumont Palace cinema opened in 1934 -

The Camels are Coming.
Mr Radice, a lively Italian proud of his unorthodox managerial methods, is also angling to make his entrance on the back of a camel. This time, however, the Stichting board may have other ideas.

COMMENT

Expanding Midland Independent plans to launch four new weeklies

By Raymond Snoddy

MIDLAND Indepeodent Newspapers, publisher of the Birmingham Post and Mail, is planning to launch up to four new weekly oewspapers in the next 12 mooths.

The new launches, which will at least start as free newspapers, are the latest signs of expansion by the management buy-out team at MIN led by chief executive Mr Chris Oak-

Earlier this year the com-Regional Newspapers. The company is also interested in

the possibility of a significant newspaper acquisition outside its Midlands regional heart-

The news of further expansloo comes as Midlaod announced a fall in pre-tax profit for the six months to end June from £3.47m to £1.92m. The main reason for the drop was a £1.7m increase in interest charges flowing from the loan stock used in the acquisi-

tion of the Thomsoo titles. Operating profit increased by to £7.8m (£7.3m) with margins continuing at more than 21 per ceot. The acquired titles, which increased the company's reach into the east Midlands. A flotatioo is getting closer

for the group bought out from Ingersol Newspapers. It could happen towards the end of next year. No firm target date has been set because of uncertainties such as whether VAT is imposed on newspapers in next month's budget or whether a large acquisition comes along. The Birmingham Post mar-

ginally increased its sales in the period while the Mall circulation dropped 3 per ceot, the Coveotry paper 1.5 per cent and the Mercury 3 per cent -all less than the regional aver-

Former 3i chief for Tring ahead of SE flotation

By Sara Webb

MR ALAN Wheatley, former chairman of the 31 veoture capital group, is to become chairman of Tring International, the privately-owned publisher and distributor of cut-price compact discs and cassettes, ahead of a planned Stock Exchange listing.

Tring expects to sell about \$20m-worth of oew and existing shares probably through a placing within the oext few mooths, although UBS, the sponsor to the listing, said the details were still under discussion. The company wants a listing to help it expand in the UK and overseas. The flotation

is likely to capitalise Tring at more than £45m, UBS said. Mr Wheatley is currectly a con-executive director of British Steel, Forte, Legal & Geo-eral, and NM Rothschild.

Tring was set up in 1990 hy Mr Mark Frey and Mr Philip Robinson, the joint chief executives who each own about 20 per cent of the company, and by Mr Mark Levinson. It currently has a catalogue

of more than 800 classical, Jazz and pop titles. For the year to March it made pre-tax profits of £3.3m on sales of £16.6m. Mr Philip Keane, finance director, said the pathfinder prospectus would be available in the middle of November.

wrangling Ball Atlantic (US) Landmark 42% £680m Copley (US) N Amer stake Cyprus Minerals (Canada) /Lec Minerals (US) Copper-bottomed breakthrough. El Abra (Chile) Mining Nestié (Switzerland) £50m Production Philip Environments (Canada) Nortru (US) 215m Caledoria In Sun International Planning 3396 Sema (UK/France Kraft Jacobs Suchard **'Kadnas Confections** Boosting east -

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SEARCHING FOR VALUE IN JAPAN

Hogy Medical Japanese Hospitals' Most Trusted Supplier State-of-the-art Product and Production Technology

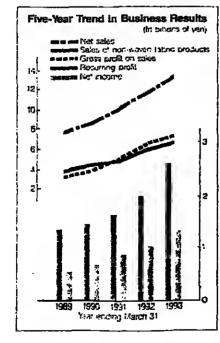
"Despite a slow economy and a lagging Japanese stock market, we reported sales and profit growth for the tenth straight year. To explain why, I would have to say: hard work, top products, and equal dedication to customers and shareholders."

Yuji Ueno, president of Hogy Medical Co., Ltd.

To Hogy Medical, Japan's leading hospital supplier, the low usage rate of non-woven disposable medical products in Japan offers an enormous business opportunity. The company is fully coofident of maintaining its preeminence in the oon-woven medical product sector, where an independent survey shows it already has close to 40 percent of the market for non-woven fabric products. The company expects sales of Sontara* noo-woven disposable fabric products, which account for nearly 60 percent of its overall turnover, to

surge 20 perceot to 25 percent annually. Those products yield a high return, providing the company with an ideal growth pattern in which profit is expected to increase faster than sales as volume builds.

*Sontare is a trademark of E.I. du Pont de Nemours and Company.



The company's average annual sales have grown over 10 percent since 1989, and forecasts are for 13 percent in 1994, despite a marked slowdown in the Japanese economy.

Reducing concern about infection Although most of Japan's surgical hospitals now use at least some categories of oon-woven disposables, the use of these products is very low compared to the U.S. and other advanced couotries. Yet measures must be takeo to prevent infectious diseases such as MRSA, AIDS and beparitis. Nonwoven fabric products are widely used around the world for this purpose.

In the U.S., non-woven fabric products have an estimated potential market of \$1.4 billion, with actual usage around 65%. Japan's potential market for these products is estimated to be \$860 millinn. The actual market stands at \$172 million, up 20% over the previous year, and, as it matures, is expected to grow rapidly to \$500 million by the year 2000, assuming the same 65% usage rate of the U.S.

The mid- and long-term prospects for Hogy's product sales are encouraging. The reasons for this are: (1) the products are competitive, (2) an automated factory huilt to manufacture Sontara noo-woven fabric will treble capacity in 1994, and (3) the revision nf the Medical Care Law opens up an encouraging environment for Hogy, a company strong to marketing surgical supplies.

In an organizational structure devised quite early in Hngy's history, the company bypasses much of the inefficiency and cost inherent in Japan's multilavered distribution system. Hogy's factories are highly automated, but retain the ability to respond Ilexibly to individual oeeds and special requests by doctors



and hospitals. By closely linking factories with distribution facilities streamlined to supply products on short ootice and respond quickly in support of emergency operations. Hogy can promise that end-users will receive its products as quickly and efficiently as possible.

Careful planning

Safety comes ahead of all else at Hogy Medical, for product lines as well as its management strategy. For example, the company expects production at its new plant to ramp up slowly as it maintains high quality and uninterrupted supply to existing users.

Products conceived with input from

For 39 years Hogy Medical has sought solutions to the problems of the medical iodustry. Products are conceived from the standpoint of the user, through close contacts with the doctors and nurses who actually use them. From that point on, product development becomes a never-ending process of choosing the best materials, designs and equipment for the customer's changing needs.

U.S. dollar amounts in the text have been translated at the rate of Ill6=USSI.



NOTICE TO HOLDERS OF SHARE WARRANTS OF THE BARING CHRYSALIS FUND LIMITED

Warrant Code: 3457419 67 Boulevard Grande Duchesse Charlotte 1010 Luxembourg

Warrant Code: 3457419 MOTB Nominces Limited 60 Victoria Embankment London EC4Y 0JP

NOTICE IS HEREBY GIVEN that the holder ("Warrantholder") of any warrant ("Warrant") to subscribe for ordinary shares ("Ordinary Shares") of US\$0-01 cach in the capital of The Baring Chrysalis Fund Limited (the "Company") may exercise the subscription rights attaching to such Warrants to require the Company to issue Ordinary Shares to the Warrantholder on 30 November 1993 at a price of US\$7-08 per share.

In exercise the subscription rights attaching to the Warrants a Warrantholder must complete the Warrant Exercise Notice on the reverse of the Warrant Certificate and deposit the relevant Warrant Certificare during the period commencing I November 1993 and ending on 29 November 1993 at the undermentioned office of the Registrar together with a remittance for the aggregate subscription price for the Ordinary Shares in respect of which the subscription rights are exercised. The second second second

Shares allotted as a result of this conversion will not be eligible for the dividend payable on

Once lodged such notice is irrevocable, except with the Directors' consent. The Directors may require as a condition of exercise of Warrants that such exercise is not by or on behalf of or with a view to transfer to, a United States person, being citizen or resident of the United States of America, its territories, possessions and all areas subject to its jurisdiction, any corporation, trust, pertnership or other entity created or organised in or under the laws of the United States of America or any state thereof or any estate or trust the income of which is subject to United States federal income rax regardless of source.

In the event of any query on the exercising of Warrants, please contact Mr T. J. Davison, at the office of the Registrar (Telephone 0481 710651, Facsimile 0481 715200).

Administrator, Secretary and Registrar: Guernsey International Fund Managers Limite Barfield House, St. Julian's Avenue, St. Peter Port, Guernsey GY1 3QL

Caisse Centrale de Crédit Immobiller 3Cf

\$116,000,000 Floating Rate Notes 1998

Notice is hereby given that for the interest period 14 October 1993 to 14 January 1994 the notes will carry an interest rate of 6,0625% per annum, interess payable on 14 January 1994 will amount to \$15.28 per

Agent: Morgan Guaranty Trust Company **JPMorgan**

MEXCAY LIMITED US \$10,000,000 Series 7

Notes due November, 1998 In accordance with article 4(b)(i) of the Terms and Conditions of the Notes, notice is hereby given that the above Notes will be redeemed early at the option of the Issuer on November 17,

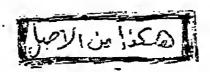
t or and on behalf of the Issuer . Banque Paribas Luxembourg



Asia's biggest housing industry show, the Good Living Show is an international event that annually attracts 500 exhibitors and 400,000 visitors from around the world. It's a perfect place to do business or just gather information. The coming show features displays of everything from model houses to indoor and outdoor housing materials and systems windows, doors, furniture, home findings and related information. Principal visitors will be trained and residence. information. Principal visitors will include engineers, remodelers, designers, planners, interior designers and sales agents as well as general consumers.

Application period: November 25 — December 24, 1993 For inquiries and applications please contact GOOD LIVING SHOW, Business Department

Tokyo International Trade Fair Commission 10KyO II/INTERESTRUCTION TO THE RESTRUCTION TO A Japan 7-24, Harumi 4-chiome, Chuo-ka, Rekyo 104, Japan Phone: (03)3531-3371 Pac. (03)3531-1344 The 02523935 TITFJ





Mexico set to create market for mortgages

By Damian Fraser and Stephen Fidler in Mexico City

THE Mexican government is set to introduce legislation that will facilitate the development of a market in mortgage securi-ties, according to Mr Guillermo Ortiz, under-minister of

Mr Ortiz said the government "was willing to contem-plate government intervention to extend guarantees of mortsages". The government may guarantee part of a loan over a given maturity, to help those who could not otherwise finance the purchase of a

house or apartment.

The legislation, to be introduced after November, will include allowing property titles to be transferred to third parties without being certified by public notaries. Difficulties in transferring titles have inhib-ited the development of a secondary market in mortgages.

Mexico has an acute shortage of housing, in part because of the difficulty and high cost of obtaining a mortgage. But as inflation has fallen, loans of up to 10 years have become available and interest in the mortgage market has grown.

However, banks have complained about the legal obstacles in securitising mortgage and consumer loans. The lack of a secondary market in such loans has kept mortgage interest rates higher than they would otherwise be, and stifled demand.

Mr Ortiz concedes that the proposed legislation will not neet all of the bankers' "liemands. The legal process in taking possession of houses when a mortgage has been defaulted is long and uncertain. Mr Ricardo Guajardo, chief executive of Bancomer, Mexico's second-largest bank, says it can take about three years to win settlement in the

case of a mortgage default. The government is also planning to introduce next year a derivatives market to allow investors to hedge foreign exchange and interest rate risk, Mr Ortiz said. The govern-ment will first have to establish capitalisation rules for participants, he said.

COMPANIES AND FINANCE

Apple looks to next generation

Louise Kehoe on the US computer group's latest boardroom shuffle

who had hoped to orchestrate a graceful departure from Apple Computer after 10 years at the helm of the personal computer com-pany, was last week forced into an abrupt resignation.

The move by Apple's board to replace Mr Sculley, one of the better known and more articulate executives in the US. came as the company ended one of the most troubled years in its history. Last week, Apple reported a meagre \$2.7m fourth-quarter profit, down 97 per cent on the same period last year.

Struggling to maintain its share of the PC market, Apple has repeatedly cut prices over the past year, paring gross profit margins from 43 per cent to less than 26 per cent in the

For Mr Sculley, the timing could not have been worse. A year ago, he might have left Apple as a hero who had led the company to record sales and profits and steered it toward emerging technologies. Instead, as Apple's financial problems deepened, he became the target of intense criticism, blamed for the company's

Mr Sculley's desire to move on to new challenges has

R JOHN Sculley, become increasingly apparent over the past two years. He seemed to be losing interest in the price and market-share battles of the PC market, enthusing instead about the new opportunities to be found in the confluence of computer, communications and consumer electronics technology, which he predicted would create a \$3,500bn industry.

Speculation was rife that Mr Sculley would, before long, leave Apple – perhaps for a post in the Clinton administra-tion or to form his own hightech company, a move that he acknowledges is his dream. Earlier this year, he made an

unsuccessful bid for the top job at International Business Machines by proposing an audacious merger plan - com-bining Apple with the most profitable portions of IBM's business. Most of IBM's directors were too short-sighted to recognise the potential of his proposal, he later complained. Few, however, had foresee

such an ignominious end to Mr Sculley's career at Apple. Even when, four months ago, he handed over the role of chief executive to his second in command, Mr Michael Spindler, Apple was at pains to deny that Mr Sculley was being forced to relinquish power.



Michael Spindler: replacing John Sculley at Apple

It now appears, however, that Mr Sculley, like his prede-cessor Mr Steve Jobs, fell victim to a boardroom dispute. Indeed, there are uncanny parallels between the circumstances, in 1985, when Mr Jobs was forced out of the company he co-founded, and Mr Sculley's untimely departure.

Mr Jobs was ousted when Apple, as it is today, was fac-ing a financial crisis and its first Macintosh personal computer was failing to live up to expectations.

Similarly, Mr Sculley's departure coincides with disap-

pointment over the performance of the Newton Message pad, his pet project.

Mr Sculley turned "Steve's machine" into a huge commer-cial success, increasing Apple's revenues over his 10-year tenure from \$600m to almost \$80m. wever, he always seemed to barbour a desire to prove him-self the equal of the young man he had displaced at Apple by creating his own technology breakthrough and becoming, like Mr Jobs, recognised for his technology vision".

It will now be up to Mr Sculley's successors - Mr Michael Spindler, the new chief executive, and Mr Mike Markkula Apple's new chairman - to determine whether Mr Sculley's Newton can become Apple's most important product technology for the 1990s. Mr Sculley's legacy at Apple will also be judged, however, on the success of the technol-

ogy alliances that he formed with IBM two years ago to develop microprocessor and software technology for the next generation of Apple personal computers.

The first of these "PowerPC" products is expected to be ready for market next year. That will be none too soon for Apple's new management

Credito Italiano sale expected in December

By Robert Graham in Rome

THE PRIVATISATION of Credito Italiano, the commercial bank 67 per cent owned by Iri, the state holding company, is expected to begin in early

The timetable has been firmed up following changes approved last week to Credito's statutes. They have been revised to include a 3 per cent ceiling on single shareholdings by new shareholders.

The aim of the 3 per cent limit is to encourage as wide a share base as possible. Within the government there were contrasting views, and Professor Romani Prodi, head of Iri, was reported to have been pressing for a maximum 2 per

The same ceiling will apply to Banca Commercials Italiano, the second of Iri's large banks. The sale of Iri's 57 per cent stake in BCI is expected to begin next April.

Credito's privatisation was announced in September 1992. The original intention was to organise a trade sale, but a mouth ago a share offer, including a portion reserved for foreign institutional investors, was agreed.

In another privatisation development, Eni, the state oil concern, has appointed Roths-child to handle the valuation and flotation of its energy interests. The Rothschild brief indicates that the privatisation proposed by Eni chairman Mr Franco Bernabe is broader than initially envisaged.

Quek unit buys OTB from HK government

in Hong Kong

GUOCO Group, the Hong Kong based company con-trolled by the Malaysian Quek family, has completed the HK\$4.46hn (US\$577m) acquisition of the Overseas Trust Bank (OTB) from the Hong Kong government.

The deal was announced in July, but the price agreed to was a HK\$420m premium to a subsequent asset valuation of The OTB will be linked with

Guoco's wholly owned subsid-iary, Dao Heng Bank, to form Hong Kong's fourth-largest banking group. Guoco announced that it

would complete the flotation of the enlarged Dao Heng Bank of the banking group.

before the end of the year. Guoco's purchase of OTB was partly funded by a HK2.8bn issus of preference shares, which will be convertible into Dao Heng shares once it obtains a separate listing.

Following the Dao Heng flotation, Guoco will become an investment holding company with interests which will include a majority stake in Singapore-based First Capital Corporation, and several property developments.

The sale of the OTB completes the government's successful turnround of several banks which collapsed during

At the price paid for OTB, the government will recuper-ate the costs of its 1985 rescue

EAST RAND PROPRIETARY MINES LIMITED

(Registration number 01/00773/06) (Incorporated in the Republic of South Africa)
("the Company")

NOTICE CONVENING A GENERAL MEETING OF SHAREHOLDERS Notice is hereby given that a general meeting of ordinary shareholders of the Company will be held at 080,00 on Tuesday, 9 November 1993 in the boardroom, Randgold House, Corner Northern Parkway and Handel Road, Ozmonde, Johannaaburg, for the purpose of considering and, if deemed fit, passing, with or without modificant the resolutions set out below:

AS SPECIAL RESOLUTION NUMBER |

RESOLVED THAT, the Company's authorised share capital be increased from R3S 015 000 divided into 35 000 000 ordinary shares of 31 each. 1 000 000 "A" class variable rate cumulative redeemable preference shares of 1 cent each and 500 000 "B" class variable rate cumulative redeemable preference shares of 1 cent each to R185 015 000 divided into 185 000 000 ordinary shares of R1 each. 1 000 000 "A" class variable rate of cumulative redeemable preference shares of 1 cent each and 500 000 "8" class variable rate cumulative redoomable preference shares of 1 cent each by the creation of 150 000 000 new ordinary shares of R1 each, such additional shares to rank patt passu upon their liciment and issue with the existing ordinary shares of the company

AS SPECIAL RESOLUTION NUMBER 2 "RESOLVED THAT the existing 500 000 authorised and 350 000 issued "B" class variable rate cumulative tedeemable preference shares of 1 cent each in the capital of the company be and they are consolidated into 5 000 authorised and 3 500 issued "B" class variable rate cumulative redeemable preference shares of RL 00 cach

as special resolution number 3 "RESOLVED THAT subject to the passing and registration of special resolutions No L and No 2 and the allotmont and issue of the ordinary shares of RL 00 each in accordance with the Company's proposed 1993 rights offer, all the "B" class variable rate cumulative redeemable proference shares of R1 00 each ("the B' preference shares") in the capital of the Company be converted pursuant to section 75 (1)(f) of the Companies Act. 1973, into ordinary shares of R1 00 each in the share capital of the Company, ranking upon their conversion, part passu in all respects with the existing ordinary shares of R1.00 each in the share capital of the Company, on the basis of 1 ordinary share of R1 each for every B

AS ORDINARY RESOLUTION NUMBER 1

"RESOLVED THAT, subject to the passing and registration of special resolution No 1 all the unissued shares in the authorised share capital of the Company be placed under the control of the directors until the next annual general meeting of the company and, subject to the provisions of Socion 222 of the Companies Act, 1973 and the requirements of The Johannesburg Stock Exchange that the directors be authorised to allot and issue those shares in their discretion and on such terms and conditions as and when they doesn fit

AS ORDINARY RESOLUTION NUMBER 2 *RESOLVED THAT, the East Rand Proprietary Munes Share Option Scheme rabled at the meeting and initialled by the Chairman for the purposes of identification be approved, ratified and adopted by the company and the directors be authorised, for and on behalf of the company, to do all such things as may be necessary or incidental for the purpose of

initially making available to the East Rand Proprietary Mines Share Option Trust an amount of unusuand ordinary shares not exceeding 10% of the issued ordinary share capital of RI each in the company's share capital for acquisition by THE REASONS FOR AND EFFECT OF THE SPECIAL RESOLUTIONS:

The reason for the proposed Special Resolution Number 1 is to increase the authorised share capital of the company in order to enable if to undertake the possible rights offer of ordinary shares, the effect of this resolution will be to increase the company's authorised share capital from R35 015 000 to R185 015 000, by the creation of 150 000 000 new ordinary

The reason for the proposed Special Resolution Number 2 is the fact that Special Resolution Number 3 requires a maion of the preference shares into ordinary shares and in order to facilitate that conversion, it is necessary to ensure that the par value of the "B" preference shares and the ordinary shares in the share capital of the company is the same. The effect of Special Resolution Number 2 will be to consolidate the "B" class variable rate cumulative redeemable preference shares of 1 cent each in the authorised and issued share capital of the company into "B" class variable rate cumulative redocmable preference shares or RI.00 each.

The reason for the proposed Special Resolution Number 3 is, to achieve a reduction on the company's future preference dividend obligations by converting the "S" preference shares into ordinary shares of R1 00 each. The effect of this resolution after a possible rights offer, will be to achieve this by increasing the ordinary shares of R1 00 each in issue and having no "B" preference shares. It should be noted that the "A" class preference shares have not been assued.

Ordinary shareholders and holders of share warrants to bearer shall be entitled to attend and vote at the meeting and a form of proxy is available on request for the convenience of any shareholder who is unable to do so. The form of proxy should be completed and forwarded to reach the Company's transfer secretaries in Johannesburg, or in the United Kingdom by no later than 09h00 on Friday, 6 November 1993. Any ordinary shareholder who completes and lodgos a form of proxy will not be precluded from attording and voting at the meeting to the exclusion of the proxy appointed by

The holder of a share warrant to bearer who desires to attend or be represented at the meeting must produce his share warrant or a certificate of his holding from a banker or other approved person at the bearer reception office of the United Kingdom transfer secretaries, or they must produce their share warrants at the office of the French agents, in both cases at least 5 (five) days before the date appointed for the holding of the meeting and shall otherwise comply with the "Conditions governing share warrante" currently in force. Upon such production, a proxy form or an attendance form will be issued under which such share warrant holder may be represented at or attend the meeting. Each shareholder is entitled to appoint one or more proxies (who need not be members of the company) to attend

speak and vote in his stead. On a show of hands, every shareholder who is present in person or by proxy shall have one yote, and on a poll, every shareholder present in person or by proxy shall have one voie for each share held by lam. By order of the board

RANDCOLD & EXPLORATION COMPANY LIMITED Secretaries per T K Savage 16 October 1993

Randgold House Corner Northern Parkway and Handel Road Ormonde Johannesburg, 2091

Office of the United Kingdom Secretarie Viaduci Corporate Services Limited 19 Charterhouse Street

"It takes a local man to show

1993 Number 1 2,500 Units

lasue Price \$10,000 Bank of Boston Trust Company (Bahemas) Limited, as Trustee for the Units, hereb notities all Unitholders that:

Consent of all Unitholders is sought to certain amendments to the Deck Consent of all Unitholders is sought to certain emendments to the Declaration of Trust, which emendments include (i) extension of the time for repayment of principal under the Trust investments to November 3, 1994, and further extendible, under certain circumstances and at the option of the Trust investment issuer, to May 3, 1995 or November 3, 1995. Bank of Boston S.A. shall agree with each consenting Unitholder that, at such Unitholder's option, it or its designee shall repurchase such Unitholder's Units on November S, 1994 and (ii) amendments to notification provisions of the Declaration of Trust;

Units of Unitholders who do not give their consent to the above amends or prior to October 25, 1993 shall be purchased for the full principal thereof plus accrued interest on November 3, 1993. A more detailed explanation of the above matters has been forwarded to Unitholders via EuroClear System and Codel S.A. in order to obtain further information regarding the above, please contact: Thereates Volpon telephone 011-55-11-234-5613. Bank of Boston Trust Company (Bahs October 11,1983

KAVIFINOF

Kaufhof Finance B.V.

Can\$ 100,000,000 Collared Floating Rate Notes 1993/2003 The Rate of interest applicable to the Interest Period from October 15, 1993 to January 17, 1994, inclusive, was determined to be 6.5 per cent per annum. Therefore, on January 18, 1994, interest per Note of Can\$ 1,000 principal amount in the amount of Can\$ 16.92 and interest per Note of Can\$ 10,000 principal amount in the amount of Can\$ 169.18 is due.

U.S. \$200,000,000

Compagnie Financière

de Crédit Industriel et Commercial

Floating Rate Notes Due 1997

Notice is hereby given that the Interest poyoble on the relevant Interest Poyment Date, November 17, 1993, for the period May 17, 1993 to November 17, 1993 against Coupon No. 17 in respect of US\$50,000 nominal of the Notes will be US\$1,341.66

Frankfurt am Main, October 1993

Dresdner Bank Aktiengeselischeit Calculation and Principal Paying Agent

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FINANCIAL TIMES NEWSLATTERS ntered Office: Negation One, Squatework Bridge, Luxule No. Bacons, V.A.T Reiglandige No. CO 278 5371 24.

Notice to the holders of

Coca-Cola Amatil Limited A\$75,000,000 9 1/4 per cent. Notes (the "Notes") Due 23 June, 1995

ISIN CODE XS 0037876728

Notice is hereby given to the Holders of the outstanding Notes that, on and with effect from 18 October, 1993, (the "Effective Date") Westpac Banking Corporation London Branch will resign as Principal Paying Agent under the Notes and on and with effect from the Effective Date, Kredietbank S.A. Luxembourgeoise will be appointed as successor Principal Paying Agent. The address of the new Principal Paying Agent under

the Notes will be:-Kredietbank S.A. Luxembourgeoise 43, Boulevard Royal, L-2955 Luxembourg Telephone No. (352) 47 97 1

Facsimile No. (352) 47 26 67

Westpac Banking Corporation 18 October, 1993.

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Subordinated Floating Rate Notes
duse October 2002
In accordance with the provisions of
the Notes, notice is hereby given
that the Rate of Interest for the six
month period ending 15th April,
1994 has been fixed at 5% per 1994 has been fixed at 576 yearnum. The interest accruing for such six month period will be U.S. \$25.28 per U.S. \$1,000 Bearer Note, and U.S. \$252.78 per U.S. \$10,000 Bearer Note and U.S. \$2,527.78 per U.S. \$100,000 Bearer Note on 15th April, 1994 against presentation of Coupon No. 3.

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13th October, 1993

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GBP 10,000,000 YORKSHIRE BUILDING SOCIETY

Floating Rate SubordinatedNotes due 1999

Interest Plate 6.625% p. a. Interest Period October 13, 1993 January 13, 1994 GBP 100,000 GBP 1,669.86

RANGUE GENERALE DU LUMBAGOURG Agent Bank

Western Harbour Crossing

Prequalification of Tenderers Electrical and Mechanical Works

Nishimatsu Kumagai Joint Venture has been awarded the turnkey contract for the complete design and construction of the Western Harbour Crossing, a dual 3 lane immersed tube road tunnel under the Victoria Harbour linking Sai Ying Pun on the Hong Kong Island to West Kowloon on the Kowloon Peninsula.

Nishimatsu Kumagai Joint Venture invites bonafide Electrical and Mechanical companies experienced in project management and design and construct contracts to apply in writing prior to 25th October 1993 for prequalification of their

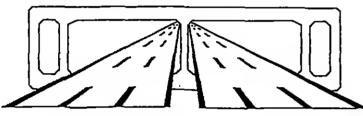
> The Project Manager Nishimatsu Kumagai Joint Venture Room 517, Star House Salisbury Road Tsim Sha Tsui Kowloon Hong Kong

Fax: (852) 376-3151 Tel: (852) 376-2802

for a copy of the prequalification document

This prequalification document gives the necessary information for prospective tenderers to submit their application for prequalification.

Applications for prequalification are required to be submitted to the Project Manager by the 26th November 1993.





NISHIMATSU KUMAGAI JOINT VENTURE



COMPANIES AND FINANCE

Murdoch mulls

MR RUPERT Murdocb, would be willing to do that," chairman of News Corp. is he told the newspaper. issuing new shares to telecommunications or other strategic partners, AP-DJ reports from Sydney.

News Corp last week announced plans to give exist-ing shareholders a new class of shares that carry increased voting rights. This will allow the group to sell large parcels of conventional common stock to form strategic alliances without diluting Mr Murdoch's 30 per cent voting stake.

In an interview published over the weekend in The Australian, News Corp's flagship Australian newspaper, Mr Mur-doch said the company did not need additional funds at this

However, "this does seem to be a moment of opportunity." be said. "There's a bit of a frenzy developing in terms of the media and investment and It looks like it may last for a while. This may be a window of opportunity to take a quantum step forward.

"We just want to be ready to do it should that opportunity arise. We could place up to 20 per cent of the company and raise A\$4bn to A\$5bn. We

media share prices to raise

A\$4bn to A\$5bn (US\$3.3bn) by
issuing new shares to take newspaper.

"At today's prices we're valued at US\$15bn to US\$16bn. if
we increase that he on the prices we're valued at US\$15bn to US\$16bn. if cent, that would give us enormous financial strength," Mr Murdoch maintained.

Share prices of media companies, particularly in the US. soared last week on news of a proposed merger between Bell Atlantic, a telephone company. and Tele-Communications, a cable television operator.

Investors bought shares in the hope of positioning them-selves to cash in on an expected linking of telephone companies, cable TV operators. information companies, media concerns and film studios.

News Corp has film and sat-ellite TV interests as well as newspaper and magazine units. The company's shares climbed 52 cents to AS11.62 on the Australian Stock Exchange on

Mr Murdoch said that any of financial and industry strength.

They could give us access to new technologies and cash, or just the cash. We have e feeding frenzy at the moment and like all feeding frenzies it

Havas suffers downturn

By Alice Rawsthorn

HAVAS, the leading French leisure group, saw net profits fall by 8.4 per cent to FFr423m (\$74m) in the first half of this year from the same period of 1992 and warned of lower net profits for the full year.

The group, which has exten-

affected by "sluggish trends" in its advertising businesses. billboard interests and travel activities.

Havas pushed up revenues by 4.1 per cent to FFri4.8bn in the first six months of 1993. The proportion of its revenue made outside France rose to siva media and travel interests 37.9 per cent from 33.8 per cent.

lifts stake

By John Burton

KIA MOTORS officials expressed concern at the weekend that the company, South Korea's second-largest vehicle manufacturer, may become the target of the country's first takeover bid.

Samsung, the blg electronics canglomerate, has increased its shareholding in Kia by 40 per cent to 9.6 per cent during the past three months, according to a new report from the Securities Supervisory Board.

This makes Samsung the second-largest corporate shareholder in Kia after Ford Motor of the US, which has 10 per cent. Mazda Motors of Japan has 8 per cent.

Samsung bas made little secret of its desire to add rebicles to its list of activities. It is already taking its first the larger groups "who buy step into the motor industry into us would provide further by starting truck production next year in co-operation with Nissan Diesel of Japan.

Samsong officials deny that the recent stock purchase represents the beginning of a takeover bid for Kla, explain-ing that it is part of a shift in the group's securities portfolio from banks to manufacturing companies.

But analysts point out that it is highly unusual for such a large investment to be made in one company.

Kia's nwnership is fragmented for a Korean company, with 11.4 per cent beld by employees and a 2.4 per cent interest belonging to the family of Mr Kim Ho-chul, its

If Samsung is preparing a bid for Kia, it would be the first hig merger or acquisition to occur in Korea through the purchase of large blocks of shares on the stock exchange. Any such move would coincide with a proposed legal

change next year that would eliminate rules that have prevented corporate raids via the stock market. Investors are presently

barred from acquiring more than 10 per cent of a company if they beld less than that amount when the concern was There have been persistent reports on the Seoul bourse for

the past year that Samsung is

interested in acquiring control of Kia Motors, the flagship of biggest conglomerate. Korea's other motor companies, which include flynndai and Daewoo, have argued that Korea could not support a

fourth car manufacturer if Samsung began independent The government cited over

capacity in blocking Samsung's proposed car joint ven-ture with Chrysler in 1985.

Kia Motors Shares in BNP new equity issues as Samsung expected to trade at a premium

By Alice Rawsthorn in Paris

SHARES in Banque Nationale de Paris (BNP), the bank spearbeading the French government's privatisation programme, are expected to rise to a premium when they start trading this morning. BNP's new shares, which

were sold at the unexpectedly low price of FFr240, were trading at FFr277 on the "grey", or unofficial, market late last week. Analysts expect the shares to rise to a similar level when trading begins.

"The original issue was so beavily oversubscribed that there is bound be to strong demand," said one analyst. Also, the offer price is generally accepted as having been too low, which should make the institutions even keener to pick up stock in the market."

The BNP issue, which values the bank at FFr43bn (\$7.5bn). was heavily oversubscribed. The institutional part of the issue was closed after only two days, having attracted applications for 12 times the number of shares available.

The public issue was five times subscribed, with some

2.8m investors applying for shares against the original tar-

get of 1m. As a result, the government has increased the allocation of shares to the public by reducing the number earmarked for institutional investors and "hard core" shareholders. Even so, it has also ratinned the shares given to the public from

the original 40 to 15 each.
In aplie of the high level of interest in BNP's shares, analysts do not expect the French to "stag" the issue by taking quick profits on their shares, as UK investors did in the 1980s privatisations.

This is partly because of the incentives offered to private investors to hold on to their shares, and partly because there is no tradition of "stag-

ging" in France. The next phase of the privatisation programme will be the announcement, expected today or tomorrow, of the next candidate for sale. The economy ministry last week said that the next issue would be either Rhône-Poulenc. the flagship chemicals company, or Elf Aquitaine, the oil and gas

Syndicated loan volume ahead of 1992 total

By Antonia Sharpe

THE volume of loan syndications in the first nine months of this year has beaten last year's total by \$40bn, in spite of a fall in volume in the third quarter.

However, the rise in volume bas not generated a similar rise in earnings for the banks. Healthy bank balance sheets juxtaposed with a dearth of deals have driven pricing and fees down to record lows, to the dismay of lenders," said Investment Dealers' Digest and Bank Loan Report.

Loan syndications volume for the first nine months of 1993 stood at \$388.3bn, compared with \$348.5bn last year.
Third-quarter volume fell 14

per cent to \$141.3bn from \$164.3bn in the second quarter,

but the third-quarter figure represented a 46.7 per cent rise over the same period in 1992. Chemical Bank remained at

the top of the global loan syndications rankings at the end of the third quarter, with more than \$38bn in syndications volume. Citicorp also retained its second position, with \$33bn, while J.P. Morgan rose from 11th position to third position, with nearly \$22bn.

The top 10 deals closed in the third quarter of 1993 were: the Kingdom of Spain (\$4,58bn), Sears Roebuck (\$4bn), US West (\$2.6bn), Chrysler Financial Corp (\$2.5bn), British Aerospace (\$2.3bn), Morgan Stanley Group (\$2.2bn). AT&T Capital Corp (\$2bn), Province of Ontario (\$2bn), Seagram (\$2bn) and Fleet Mortgage Group

Sales growth for Sandoz

By lan Rodger in Zurich

SANDOZ, like its two Baslebased pharmaceutical competitors Ciba and Roche, enjoyed strong sales in the third

quarter. Group sales were up 9.7 per cent to SFr3.48bn (\$2.44bn) in the quarter, led by by a 13.1 per cent jump in pharmaceuti-

cal division sales to SFr1.84bn. The group also forecast further sales growth in the fourth quarter and said that its net income for the year would rise by more than 10 per cent from

last year's SFr1.49bn. Roche recently reported a third-quarter sales jump of 18 per cent to SFr3.6bn and Ciba an 8.3 per cent rise to SFr5.2bn.

CONTRACTS & TENDERS

GOVERNMENT OF HONG KONG CONTRACT NO. HY/93/38

TING KAU BRIDGE AND APPROACH VIADUCT PREQUALIFICATION OF TENDERERS

The Government of Hong Kong invites applications from civil engineering firms and consortia to prequalify for the opportunity to tender for the Design and Construction contract for the Ting Kau Bridge and Approach Viaduct which forms part of Route 3 between the North West New Territories and Tsing

The contract will include both the design and construction of the Ting Kau Bridge and Approach Viaduct (approximately 1775m long) across Rambler Channel, ship impact protection works, elevated slip roads, road works, associated earthworks, drainage works and reclamation for temporary works

Following successful prequalification, it is intended to invite tenders for the contracts in December 1993 with return of tenders in May 1994. It is anticipated that the award of contract would be made in August 1994.

Approved Contractors for Public Works in Group C for Roads and Drainage of List I, or on List II and Overseas Contractors are invited to apply for prequalification documents to:

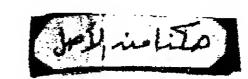
The Project Director, Lantau Fixed Crossing Project Management Office, Highways Department, 15 Floor Harbour Centre, 25 Harbour Road, Wanchai, Hong Kong.

(Fax: 827 6566)

Completed prequalification submissions shall be forwarded to the Director of Highways, Highways Department, Lantau Fixed Crossing Project Management Office, 15/F Harbour Centre, 25 Harbour Road, Wanchai, Hong Kong to arrive not later than 12:00 noon in Hong Kong, on Thursday 11 November 1993.

The Hong Kong Government reserves the right to reject any application at its discretion and without explanation.







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Have you got 2 minutes?

Clutchingyourtightlypackedbriefcase,you makeyourwaythroughthetightlypacked airport.People.Noise.Morepeople.You're justpreparingyourselftodothepassport control shuffle when hold on, you're leaving everyone behind.

You're sailing through your own separate security channel.

loan volu

192 total

h for 82.

As you drift through the doors of the new Club World Lounge, you hear something strange.

What is it?

Absolutely nothing.

You haven't heard that

for a long time. Listen,

there it is again.



Your flight announcement prises you out of the sofa and into...that old armchair of yours.



Wait a whoooooops, your armchair never felt this good. And where did that foot rest come from? Oh well, just lie back and think &...dinner.

A choice of four leisurely courses over three and half hours or a lighter meal over a mere 60 minutes

So you could stop here

Or go on

And on and on

And to follow, may we recommend a small slice of escapism

You turn vour personal seatback video. Looking to your choice of 8 channels of entertainment, you let your mind switch

You've seen the film, now read a booklet: 'The Well Being in the Air Programme?

Let's just try a few exercises.

Strretchyour arms and breeeeeccathe out.

> .sts clockwise (gosh, is that the time already?)

Breathe innnnnn and out... innnnnn and out... eyelids getting heavy.... who's that snoring?..... maybe I should just look or there

AWOKEN by a gentle alarm call and, exactly when you ordered it, breakfast.

Tropical fruit or Birchermuesli Orange juice or Energiser drink

Eeni, Meeni, Miney or Mo



Right, let's have a long look at the presentation.

This seems to be a problem We just need to be more decisive on Hvis. or do we?

Before you know it, you've landed. Please remain reading until the ad comes to a complete halt.

Congratulations. You've just flown around the new Club World in 80 lines.

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US MONEY AND CREDIT

Doubts over strength of bull run

JUST HOW low can US bond be asked a lot on Wall Street over the coming week as the market dwells on a bull run which last Friday took the yield on longer dated issues down to levels not seen for a quarter century.

For amid the euphoria, there are straws in the wind indicating that some corporate Treasurers and top money manag-ers think long rates may be getting close to the bottom of the cycle.

Last week's rally was pushed along by good inflation figures and weak retail sales statistics for September. The producer price index, unveiled on Thursday, rose 0.2 per cent during the month, while the consumer price index was unchanged.

buying orders which pushed

year bond down to 5.78 by the close, compared with 5.85 per cent on Thursday and 5.93 per cent at the and of the previous week. The 10-year Treasury note ended the week at 5.16 per cent, its lowest since 1967.

For now, the main forces working on the market seem to be benign. Inflation is subdued, with consumer prices rising at an annual rate of 2.5 per cent so far this year. Economic growth remains sluggish, with third-quarter GDP figures, due on October 8, expected to show a rise of around 3 per cent, with some further acceleration possible in the fourth quarter.

The dollar appears to be on a gently firming trend and the political backdrop seems favourable. Mr Mitchell Held, of Smith Barney Shearson, says market psychology should be helped over the next few

the yield on the benchmark 30- months by further budget deficit cutting initiatives, including the Senate's consideration of a balanced-budget amendment to the constitution

There is no apparent need for the Federal Reserve to change its policy stance - a perception which has stalled short-term interest rates while the long end has come sharply down, producing a much flat-ter yield curve, albeit one still on the steep side compared to past trends. The spread between the two-year note and the 30-year bond stands at around 200 basis points.

The result is a broad consensus that the yield on the long bond has further to fall possibly to around 5.5 per cent - and that the market may then oscillate for a considerable time within a band of between 5.5 per cent and 6 per

However, this picture could be upset by unpleasant inflation surprises. Analysts are already warning, for example, that October's figures are likaly to be bad, in part because of the introduction of a new tax on gasoline.

cycle turns upwards

While mutual fund money pours into the market, other ading fund managers seem to be slowly trimming their port-folios, in the belief that it is better to narrowly miss the bottom than suffer when rates rise once more. Some analysts argue that a

more staggish performance over the past few weeks in interest-rate sensitive equity sectors - such as utilities and banking stocks - could be a sign of a bond hull market

Martin Dickson

Yields fall on German court ruling

Maastricht treaty by Ger-many'e constitutional court breathed new life into the Ecu market, causing it to outperform all significant European bond markets last week.

Although it attached some conditions to the ruling, the court judged the Maastricht treaty for European monetary union to be consistent with

Germany's basic law, While the verdict "does not accelerate the progress to monetary union, it does remove an important factor which could have derailed it," said Mr Adrian James, a bond analyst

After the ruling, the yield on the benchmark 8 per cent Ecu OAT due 2003 fell some 25 basis points to 6.40 per cent on Friday. The Ecu bond's yield gap over the 6.5 per cent 10vear German bund narrowed

to 49 from 69 basis points. However, in spite of their sharp rises, Ecu bonds are expected to post further gains as investors return to the mar-

ket after a protracted absence. With the last legal hurdla out of the way, we've seen keen demand from international investors," said Mr Hans Knol ten Bensel, Ecu analyst with Kredietbank NV.

Borrowers, too, are expected to flock back to the Ecu sector, adding depth to a market which was becoming increasingly illiquid amid the uncer tainty following the Danish rejection of the Maastricht treaty in a refereodum in June

Following the German court ruling, the European Community was the first to tap pent-up demand for Ecu bonds last week with its Ecu1bn of 6 per cent 7-year Eurobonds. According to Mr Knol ten

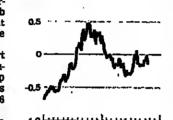
Bensel, "there is great demand for current-coupon issues," as many older bonds with higher coupons trade at a large premium to their par value, which deters many investors. The coming months will see

more supply, the bulk of which is likely to be issued by EC bodies and sovereigns.

Among the sovereigns, France and the UK have been regular Ecu borrowers, but Belgium is also said to be considering a programme of Ecudenominated OLOs, or linear Treasury bonds.

The next Ecu issue will be the UK Treasury's Ecu500bn 8 per cent notes due 1996, to be auctioned tomorrow. The notes are expected to meet with a warm welcome at a time wben

Ecu bond yield spread Actual minus theoretical (%)



many investors are shifting back into shorter maturities in anticipation of near-term European rate cuts.

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1992

The issue is almost perfectly timed," said Mr Bob Tyley, bead of bond analysis at Paribas Capital Markets. "The best value is towards

the shorter end," says Mr Steven Major, senior bond analyst at Crédit Lyonnais. As he sees it, Europe's bond markets have now reached a turning point, and vield curves are set to steepen as central-bank easing

Investors are also expected to take comfort from the freezing of the Ecu when tha Maas-

In the past, the basket has undergone regular five-yearly revisions, and the freezing of the Ecu's composition will remove another source of uncertainty for investors, Meanwhile, Ecu bonds offer

an interesing opportunity for French franc investors, Mr Major points out. Switching into Ecu out of francs substantially reduces currency risk while the bonds offer a yield pick-up of some 50 basis points over 10-year OATs, he says. Another indicator of Ecu bonds' value is the relationship between actual and their theo retical yields (calculated according to the bond yields of the Ecu's component currencies). On Friday, the actual yield was some 14 basis points below the theoretical yield,

oretical value. However, many expect that spread to widen further; Mr Tyley at Paribas says the actual yield could move as much as 20-25 basis points its theoretical counter-

indicating that the bonds are

expensive relative to their the-

Conner Middelmann

Inflationary pressure shrugged off

THE GILT market took a yield curve have to be put in relaxed view of last week's the context of moves in other higher than expected figures for inflation, with long-dated bonds barely moving and prices of short-dated securities edging higher.

The overall effect of a spate of data about the UK economy was to flatten the yield curve slightly, as investors reasone that signs of a faltering in the recovery were more likely to push Mr Kenneth Clarke, the chancellor, for an early cut in interest rates.

Perceptions that inflationary pressures in the UK remain weak, in spite of a relatively big move upwards in the retail prices index and also in prices for factory goods at the whole-sale level, were behind the modest increase in yields for gilts with maturities of more than 10 years.

On Friday night the yield for the 8.75 per cent bond payable in 2017 was quoted at 7.18 per cent, compared with 7.17 per-cent the week before.

At the other end of the yield

curve, the 10 per cent gilt dated 1996 had a yield on Fri-day night of 5.9 per cent, comfortably down on the 6.06 per cent quoted the week before. The move fits in with the feeling that, on the back of evidence of a sluggish economy, Mr Clarke may reduce base rates from the current 6 per cent around the time of the Budget on November 30, possibly to offset the effects of a

fiscal tightening. However, the changes in the European bond markets.

With investor interest in French and German bonds fairly strong, 10-year gilts fell back last week in relation to equivalent German bonds: At the and of the week, yields on the UK instruments were around 106 basis points higher than those on corre-

The fall last week in short-term yields fits in with the feeling that the chancellor may cut base rates from the current 6 per cent around the time of the Budget, possibly to offset the effects of a fiscal tightening

sponding German securities, after a yield difference of just 96 basis points seven days

This took the yield spread back to the levels seen in July. after which the difference had come down as a result of the relatively good performance of UK bonds during the summer. gilt prices comewhat uncertain, a firmer clue as to likely levels of demand for the bonds

may come today when the

in the maturity range 1997 to With the future direction of

Treasury announces how much the government had to borrow last month to make up the shortfall between spending and

City analysts reckon this will come out at around £5.3bn, a number large enough to reinforce worries about the large volume of gilts to be issued over the next few years. A figure of this magnitude

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could easily lead to a sell-off in gilts, a day ahead of the announcement tomorrow about the volume of bonds the Bank of England is due to anction on October 27. It appears likely that the Bank will decide to auction about £3.25bn of these bonds,

Last week was marked by heavy two-way gilt trading as investors wrestled with the contradictory messages from

FT/ISMA INTERNATIONAL BOND SERVICE

the UK economic data. On one hand, the move up last month in the Treasury's preferred measure of underlying retail inflation - the yearon year increase in the RPI excluding mortgage interest payments - gave the impression that price pressures were

The change in this measure from 3.1 per cent in August to 3.3 per cent last month, whila the year-on-year change in the RPI itself went up from 1.7 per cent to 1.8 per cent, came after news that prices of finished manufactured goods - excluding the volatile elements of food, drink, tobacco and petrol - rose by 3 per cent in the year to September after advancing by 2.7 per cent in the year to

August. However, giving a different view to gilt investors were fur-ther Central Statistical Office figures showing that growth in industrial production faltered during the summer, with manufacturing output down 0.7 per cent in the three months to August 31 compared with the previous three-month period.

Some gilt analysts paid more attention to this element of the week'e data - which backed up recent anecdotal evidence of subdued business activity throughout the economy especially in view of the perception that the RPI figures eem to have been distorted by unusually high prices of

Peter Marsh

Section .

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- Enables you to select the most suitable legal structure for an enterprise
- Supplies checklists so you avoid common mistakes when registering ■ Provides sample registration forms and letters

to obtain the relevant authorisations

Lists addresses and contact details of key agencies in Moscow

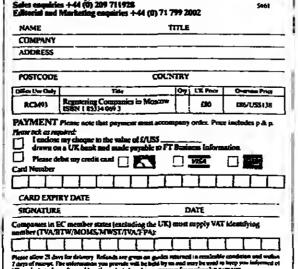
Much of this information is simply unavailable elsewhere and will be of real practical everyday use to anyone intending to do business in Russia, as well as legal, financial, accounting and other advisors.

The Guide to Registering Companies in Moscow is available exclusively from Financial Izvestia to order your copy, see below.

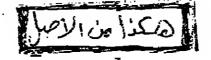
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issue underlines its commitment to the Ecu

THE EUROPEAN Community tapped the Eurobond markets in inimitable style last week, as it made the most of the favourable sentiment sparked by the removal of the last legal obstacle to the rati-fication of the Maastricht treaty on

European union. The proceeds of its two offerings, one in Ecu and the other in D-Marks, will fund a large part of the second Ecu2bn tranche of the EC's Ecu8bn balance of payments loan to Italy. The EC will launch a third issue in the coming weeks to

complete this tranche. The market had been waiting for several weeks for the EC's issues to emerge, but the EC held fire until last Wednesday, the day after the German federal constitutional court made its ruling in favour of the

The EC chose to make the first offering of bonds in Ecu to underline the importance of the German court's decision. The treaty, which covers the second phase of European economic and monetary union, can now become European law from November 1.

In addition, the Eculbn offering of seven-year Eurobonds underlined the EC'e commitment to the future of the Ecu bond market. This sector had been one of the main casualties of the long period of uncertainty about the future of the treaty.

Institutional investors deserted the Ecu bond market after Denmark rejected the treaty in a referendum in June 1992. The EC has been keen to attract them back since their presence is needed to allow the Ecu market to develop fully.

As a result, the EC decided to

give up a few basis points when the bonds were priced in order to re-open the market to institutions. Nevertheless, the EC still achieved aggressive pricing for its bonda which, at the launch, yielded 12 basis points less than the French government's 9% per cent Ecu-denominated OAT due 2000.

By the end of the week, the yield spread had tightened to 14 basis points below the OAT and the bonds had risen to 99.25 bld from a fixed re-offer price of 98.97, which traders said indicated the strong demand for liquid Ecu bonds.

The EC intends to continue to show its leadership in the Ecu bond market by issuing its Eurobond offerings in Ecu wherever possible. However, since it is effectively raising the funds on behalf of a third party, in this case Italy, it is reluc-tant to dictate the terms.

The immediate performance of the EC's DMlbn offering of five-year Eurobonds has also been strong. At the launch on Thursday the bonds had a fixed re-offer price of 100.025 to yield eight basis points over the series 107 of German government medium-term notes. On Friday, the bonds were trading at 100.15 bid and the yield spread had tightened to

six basis points.

The EC's ability to command aggressive pricing in the Eurobond market works in the favour of the ultimate borrower of the funds, because the EC does not make a profit on its lending, apart from covering the costs of issuing the bonds. As a result, Italy paid a competitive all-in cost of 6.2 per cent for its funds.

borrow in the Eurobond market to

raise money for specific purposes -it must not plug any shortfall in its budget, as this has to come from savings or contributions from member states - it is relatively unusual for its Eurobond transactions to be this large.

This was another reason wby last week's issues sold so quickly, since investors would probably have to wait at least six months before the EC lamched another series of large Eurobond offerings to finance the

third tranche for Italy.

However, it is possible that the
EC might have to raise larger amounts in the Eurobond market in the future in order to fund the EC'e commitment to creating new jobs within the Community.

In addition, it has not yet been decided if the EC's Ecu500m aid package to the West Bank and Gaza Strip will be in the form of a grant or e loan.

For now, at least, the ECe narrowly-defined borrowing remit and its inability to warehouse money mean that it is unlikely to be as However, since the EC can only active in the Eurobond market as the European Investment Bank, the

EC's long-term financing institu-tion. The EIB's annual borrowing programme of almost \$19hn makes it one of the biggest issuers in the Eurobond market.

These constraints also bar the EC from taking advantage of the benefits offered by the global bond offering, a concept pioneered by the World Bank to enable borrowers to achieve a single world price and global distribution for their bonds. The World Bank, which has

already issued global bond offerings

in dollars and yen, is expected to launch its first D-Mark global bond offering, of DM3bn, early this week. The solution devised by the World Bank to bridge the legal differences between the US and Germany has opened up this type of financing to the EC, since the D-Mark would be the most likely currency for any

global offering in the future. EC officials believe that the trend to a global market is irreversible and that it is only be a matter of time before the EC jumps on the global bond bandwagon.

Antonia Sharpe

NEW INTERNATIONAL BOND ISSUES

<u> </u>	·					LAE	W INTERNAT
Валтожег	Amount nt.	Maturity	Coupon %	Price	Yield %	Launch spread bp	Book runner
US DOLLARS							
Kingdom of Belgium	500	Nov.2003	5.50	99.094R	5.621	+32 (5%%-03)	Merrill Lynch Intl.
Kingdom of Denmark	120	Dec. 1994		100.10R			Full Intl. Finance
The Central Chemical(d)§	60	Oct.2003	3.75	100	-	-	Jardine Fleming
ING Bank(h)‡	200	Oct.2005	(r)	100R ·		•	Memili Lynch Intl.
LKB Baden Württemberg Fin.+	1bn	Nov. 1998	(14)	99.95R	-	-	CS First Boston
People's Republic of China	. 300	Nov.2003		99.15R			Lehman Brothers Asia
Benco Mexicano	100	Nov.1998	8.004	100R			Chemical Inviment Bar
Rep. of Trinidad & Tobago(p)	125	Nov.2000		99.79R	9.792	+495 (BY %-68)	CS First Boston
SCICI(e,q)§	100	Apr.2004	314-4)	100	•	•	Berclays de Zoste We
-MARKS							
Foldow(b)	500	Nov. 1998	6.25	101.75	5.836		Commerzbank
GZB Bank Stuttgart(c)	150	Nov.2003	6:125	102	-		Triniques & Burichardt
European Economic Comm.	1bn ·	Nov. 1998	5.626	100.025R	5.619	+8 (634%-96)	Deutsche Bank
Bayemhypo Finance	500	Nov.2000	5.875	101.50	5.610		Bayerische Hypobank
Deutsche Finance Netherlands(r)	750	Nov.2003	6.00	101.75	5.785	-	Dautsche Bank
Commerzbank O'seas Finance	500	Oct.2000	5.875	101,50	5.610		Commerzbank
STERLING	. :						
Fisons	100	Nov.2003	8	98.735	8.190	+120 (8%-03)	JP Morgen Securities
DePfa Finance	500	Nov.2003	7.125	99.722R	7.165	+25 (8%-03)	Salomon Brothers/ UB
Republic of Turkey	125	Oct.2003	9.00	97.77R	9.353	+230 (8%-03)	SG Warburg Securities
MC Mortgage Notes 10±	100	Nov.2020	0	99.92R	-	. 104 (01- 0-1	CS First Boston
North American Capital Corp.	100	Nov.2003	6.25	98.704R	8.447	+145 (896-03)	Bercleys de Zoete War
SNL, London Branch(r)	100	Nov.1998	7.125	99,49Fl	7.250		(BJ International
YEN		``					
ABB International Finance	10bn	Juri 1998	0#	100.25R	-		Seloma Fin. Intl/ USS
Selyu(n)	20bn	Oct.2000	4.20	99.925R		-	Nomura International
Setyu(e)	10bn	Feb.1999	3.80	100R	•	•	DKB international
Korea Development Bank(n)	9bn	Apr. 1996	3.00	100.25R	•		IBJ International
Sumitoma Realty & Devimentin)	30bn	Oct, 1998	3.70	100.35R	•		Daiwa Europe
Sumitomo Realty & Deviment(e)	20 b n	Feb.2000	3.90	100.25R	-		Yamalchi Intl. (Europe)
FRENCH FRANCS							and the second
City of Paris	1.2bn	Nov.2000	5.75	99.05R			Société Générale
National Bank of Hungary	1bn	Nov.1999	8.00	100R			Crédit Lyonnais
SNCF(m)	1.6bn	Nov.2006	6.00	97.183	6.325	+15 (c)	CDC

Amount m.	Maturity	Coupon	Price	Yield %	Launch apread bp	Book runner
	-					
100	May.1999	7.00	99.135R	7.208	+97 (51/216-98)	RBC Dominion Securities
				-	•	Kidder Pashody Intl.
				7440		Kidder Peebody Inti.
110	NOV.ZIUS	7.00	9914	7.143	+25 (1):76-03)	SWEEN BANK CORP.
150bn	Oct.1998	8.00	101.825	7.548		San Paolo, Turin
					•	JP Morgan
200bn	Nov.1998	8.00	101,965	7.514	-	Banca Euromobiliare/ BC
500	Jer.2009	6.375	99.95K	6.380	+19 (8%Sep07)	Habodenik Mederland
1bn	Nov.2000	8.00	98.97R	6.186	-12 (874%-00)	BNP/ CS First Boston/ Orsedner/Goldman Sachs
125	Nov.2000	6.50	100.625	6.386		Dautsche Benk London
				100		
400	Nov.2002	6.75#	99.77R	8,785		JP Morgan Secs. Asla
100	Oct.1997	0.375	100	-	•	Yamaichi Benk (Switz.)
200	Dec.1999	6.75	102	6,339		UBS
200	Dec.2003	4.25	102.125	3.988	-	Credit Suisse
100					-	Credit Suisse
100	Nov.1897	4.25	102.05	3.689		Swiss Bank Corp.
100	Nov.1997	0.4375	100	-		Citibenic (Switz.)
	100 100 150 110 150bn 150bn 150bn 200bn 200bn 150bn 200bn 150c 150c 150c 150c 150c 150c 150c 150c	100 May 1999 100 Nov 2003 150 Nov 2003 110 Nov 2003 110 Nov 2003 150bn Oct 1998 150bn Nov 2000 200bn Nov 1998 350 Nov 2000 1bn Nov 2000 1bn Nov 2000 125 Nov 2000 125 Nov 2000 100 Oct 1997 200 Dec 1998 200 Dec 2003 100 Dec 2003	100 May,1999 7.00 100 Nov.2003 (f) 150 Nov.2003 (f) 110 Nov.2003 (f) 110 Nov.2003 (f) 110 Nov.2003 (f) 120 Nov.2003 (f) 125 Nov.2003 8.00 1500n Nov.1998 8.00 1500n Nov.1998 8.00 1500n Nov.2003 8.125 100 Nov.2000 8.00 125 Nov.2000 8.50 100 Oct.1997 0.375 200 Oct.1999 8.75 200 Oct.1999 8.75 200 Oct.2003 4.375	100 May.1989 7.00 98.135R 100 Nov.2003 (f) 100R 150 Nov.2003 (d) 100R 110 Nov.2003 (d) 100R 110 Nov.2003 (d) 100R 110 Nov.2003 (d) 100R 1200 Nov.2003 8.00 101.825 150bn Nov.2000 8.00 101.825 150bn Nov.1888 8.00 101.985 150 Nov.2003 8.125 100.10R 500 Jer.2009 8.375 98.95R 1bn Nov.2000 8.00 98.97R 125 Nov.2000 8.50 100.825 100 Nov.2002 6.75# 99.77R 100 Oct.1997 0.375 100 200 Dec.1999 6.75 102 200 Dec.2003 4.375 102.50	100 Mey.1999 7.00 98.135R 7.208 100 Nov.2003 (6) 100R - 150 Nov.2003 (6) 100R - 110 Nov.2003 (6) 100R - 110 Nov.2003 7.00 99R 7.143 150bn Oct.1998 8.00 101.825 7.548 150bn Nov.2000 8.00 101.425 7.729 200bn Nov.1998 8.00 101.865 7.514 350 Nov.2003 8.125 100.10R 6.111 500 Jer.2009 6.375 99.95R 6.380 1bn Nov.2000 8.00 96.97R 6.186 125 Nov.2000 8.50 100.625 5.396 400 Nov.2002 6.75# 99.77R 6.785 100 Oct.1997 0.375 100 3- 200 Dec.1999 6.75 102 6.338 200 Dec.2003 4.25 102.125 3.888 100 Dec.2003 4.25 102.125 3.888 100 Dec.2003 4.25 102.125 3.888 100 Dec.2003 4.25 102.125 3.888	100 May,1999 7.00 98,135R 7.208 +97 (51/4%-98) 100 Nov.2003 (f) 100R 150 Nov.2003 (d) 100R 110 Nov.2003 7.00 95R 7.143 +26 (71/4%-03) 150bn Oct.1998 8.00 101.825 7.548 150bn Nov.2000 8.00 101.425 7.729 - 200bn Nov.1998 8.00 101.965 7.514 - 350 Nov.2003 8.125 100.10R 6.111 +21.8(61/4%-03) 500 Jan.2009 8.375 98,95R 6.380 +19 (81/4%-03) 1bn Nov.2000 8.00 98,97R 6.186 -12 (81/4%-00) 125 Nov.2000 8.50 100.625 8.386 - 100 Oct.1997 0.375 100 - 200 Dec.1999 6.75 102 6.339 - 200 Dec.2003 4.25 102.125 3.888 - 100 Dec.2003 4.375 102.50 4.086 -

RISK AND REWARD

Corporate debt sector goes retrospective



market went retrospective last week, producing a spate of exotic long-dated bonds the likes of which have not been in fsshion since the 1950s. Boe-

ing, the US eerospace group, launched a \$125m, noncallable, 50-year issue: and ABN Amro, the Dutch bank, sold \$150m of 100-year bonds.

The bank issue was priced to yield 110 basis points over the benchmark 7.125 per cent 30-year US Treasury bond. A Yankee bond denominated in US dollars, it was snapped up hy yield-hungry US money managers.

There have been two other "century" bond issues this year, by Walt Disney and Coca-Cola. It is not nostalgia that is bringing these bonds back, but a return to a tranquil, low

inflation environment This bas boosted real rates of return and made the leverage provided by ultra long-term securities attractive to investors who believe interest rates still have room to

The risk, of course, is that the leverage these issues offer cuts both ways - and when rates rise, the price of the long-dated bonds will fall far more precipitously than shorter maturities.

From the point of view of corporate borrowers with high credit quality, interest rates have fallen far enough to make a long-term lock seem prudent.

The market for the ABN Amro bond and the 50-year Boeing issue was underpinned by news last week that the so-called "core" rate of US wholesale price inflation was flat in September, and that the closelywatched consumer price index was up only 2.7 per cent on a year-onyear basis.

Traders who had bought the Boeing and ABN Amro issues on Monday and Tuesday were already sitting on a profit by the end of the week, while the portfolio jockeys who had opted for a ride on the Disney century bond in July had logged an impressive gain of 900

The debate over ultra long-term

THE corporate debt debt is by no means one-sided. Some economists argue that the value added from buying e bond with a 100-year maturity is only marginal when compared with returns from more conventional 30year corporate deht.

There's e school of thought which says it's like using a sledgehammer to hang a picture," says Mr Michael Bassett, an investment con-sultant with Stone & McCarthy.

According to Mr Bassett's calculations, the extra 70 years of maturity in a century bond will deliver only one more year of duration to the average portfolio than a conventional 30-year issue.

What the century bonds do deliver is "convexity", or price sporeciation in response to a drop in interest rates.

Be thet as it may, extra-long dated bonds have proved popular with investors who, having missed the initial stages of the bond rally, are now playing catch-up.

These investors have bought the extra-long dated bonds to get a quick boost for their portfolios, and have no intention of holding them to maturity. Other interested buyers have

been insurance companies, which like a long, steady stream of coupon payments to match long-term liabilities, such as life insurance claims. Century bonds are predictable, and avoid the reinvestment costs

and risks posed by shorter maturi-Ultra-long honds are essentially annuities, with buyers more inter-

ested in their coupon stream than in recovering principal. For extremely long-dated corporate issues to be successful, an issuer must be perceived as a very high-quality borrower, says Mr Fred Sturm, an economist with Fuji

Securities, With the yield on 30-year US Treasury bonds rapidly epproaching 5% per cent, more long-dated corporate bonds are likely to eppear on the

market. Their rarity and relative illiquidity will require special analysis, possibly more akin to individual equity valuation than traditional corporate bond rating.

Laurie Morse

AVESCO plc

(Incorporated and registered in England No. 1788363)

NOTICE TO BEARERS OF SHARE WARRANTS

Avesco plc ("the Company") hereby gives notice that in accordance with the relevant authority contained in its Articles of Association the Directors of the Company have resolved that with effect from Wednesday, 17th November 1993; 1. compliance with the provisions of Article 51 of the Articles of Association (to the extent that Article 51 relates to the giving of notice by means of press advertisement or other suitable method to the bearers of Share Warrants of the holding of any general meeting and, where

all subsequent notices to Members (including bearers of Share Warrants) may be served or delivered to each Mamber at his or her registered address, if any, appearing in the

appropriate, of any separate meeting of the holders of a particular class of chares, and of

notice of the declaration of any dividend or other distribution) shall no longer be mandatory,

Ordinary Shares held in bearer form are convertible into registered form without charge by the Company upon delivery to the Company Secretary at the Company'e registered office of the relevant bearer share warrant together with a statement of the full name and address of the Member. Upon such conversion the name and address of the member will be entered in the Register of Members in respect of the Shares so converted.

Registered Office: Venture House Davis Road, Chessington, Surrey, KT9 177 Dated 18th October 1993

By Order of the Board Secretary













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Bank of Greece ECU 200,000,000 Floating Rate Notes Due 1997 Floating Rate Notes Due 1997
In accordance with the provisions of the Notes, notice is hereby given that the Rate of Interest for the three month period ending 17th January, 1994, has been fixed at 8.4375% per annum. The interest accraing for such three month period will be ECU 229.31 per ECU 10,000 and ECU 2,203.12 per ECU 10,000 Bearer Note, on 17th January. 1994, against presentation January, 1994, against presentation of Coupon No. 7. Union Bank of Switzerhand
London Branch Agent Bank

13th October, 1993

CONFERENCES

JAMPRO

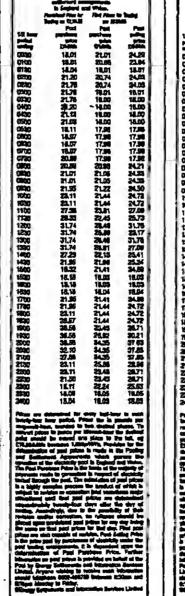


"Promoting International Business Co-operation" Kingston, Jamaica

The United Nations Industrial Development Organization (UNIDO), the Jamaica Promotion Corporation (JAMPRO) and the United Nations Development Programme are organising an Investment Promotion Meeting in Kingston, 15 - 17 November 1993. At this event discussions between Jamaican and foreign entrepreneurs on epecific investment projects through various forms of international business co-operation will be held. These excellent investment opportunities range from the agre industrial sector, extraction and downstream processing of minerals, light industries, information-based industries, to the attractive tourism sector/industry.

For prior registration and information on the available business profiles, please contact:

> The Director Industrial Investment Division, UNIDO Attention: Latin America and Caribbean Unit P.O. Box 300, A-1400 Vienna, Austria, Europe Tel.: +48-1-21181 / 4864, 4813 Fax: +43-1-2308260



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This notice is issued in compliance with the requirements of The International Stock Exchange of the United Kingdom and the Republic of Ireland Limited (the "London Stock Exchange") and appears in a matter of record only. It does not constitute an invitation to subscribe on purchase any securities. Application has been made to the London Stock Exchange for all of the Ordinary sheres of South Holdings PLC, issued and to be issued, to be admitted to the Official List? Dealings on the London Stock.

Scotia Holdings PLC
(Incorporated and registered in England and Wales under the Companies Act 1985 with registered no. 1849887)

UK and International Offer of 14,000,000 Ordinary shares at 290 pence per share fully paid lead managed by Kleinwort Benson Limited

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Share capital immediately following the Combined Offer Issued and to be issued fully paid Authorised Number of shares 80,000,000 Ordinary shares of 5 pence each

Scotta Holdings PLC is an international research-based pharmaceutical company with existing licensed and over-the counter pharmoceutical businesses, and a research and development product pipeline in medical areas including diabetes, The Combined Offer comprises 14,000,000 Ordinary shares being placed in the United Kingdom, continental Europe, the United States, Japan and elsewhere. Ordinary shares may be reallocated between these jurisdictions. Of the Ordinary shares placed in the United Kingdom and included in the UK Offer, up to 5,621,000 have been offered to intermediants.

to take account of demand from their existing private or discretionary clients. Kleinwort Benson Securities Limited and House Govert Corporate Finance Limited are joint stockbrokers to Scotia Holdings PLC.

Listing Particulars relating to Scotia Holdings PLC may be obtained from:

Kleinwort Benson Limited, 20 Fenchurch Street, London EC3P 3DB

Scotia Holdings PLC, Woodbridge Meadows, Guildford, Surrey GU1 1BA

House Govett Corporata Finance Limited 4 Broadgate, London EC2M 7LE

Copies may also be obtained during normal business hours until 27 October 1993 for collection only from the Company Announcements Office, the London Stock Exchange, London Stock Exchange Tower, off Bartholomew Lane, London EC2N 1HP and until 1 November 1993 from NatWest Registrars, National Westminster Bank Pic, Registrar's Department, PO Box 82, Caxion House, Redeliffe Way, Bristol BS99 7NH.

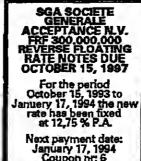
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US\$100,000,000 Subordinated collared

Boating rate notes 2005 For the period IS October 1993 to 18 April 1994 the notes will bear interest at 5% per annum. Interest payable on 18 April 1994 utili amount to US\$25.28 per LIS\$250,000 note.

Agent: Morgan Guaranty Trust Company **JPMorgan**



Next payment date: January 17, 1994 Coupon hr: 6 Amount: FRF 33291,67 for the denomination of FRF 1 000, 000 THE PRINCIPAL PAYING AGENT SOGENAL SOCIETE GENERALE GROUP 15, Av. E. Reuter -LUXEMBOURG

Notice of Interest Rates

To the Holders of

The United Mexican States Collateralized Floating Rate Bonds Due 2019

NOTICE IS HEREBY GIVEN that the interest rates covering the interest period from tober 15, 1993 to April 15, 1994 are detailed below:

1	Series Designation	Rate	Interest Amou	nt	Interest Payment Date
	USD Discount Series A DGU Discount Series	4.1875 Pct. P.A. 6.9375 Pct. P.A.	521,17 Per U.S.	51.000	April 15, 1994 April 15, 1994
				CITIBA	NK. N.A., Agent

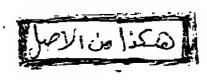
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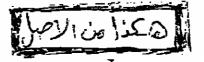
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FINANCIAL TIMES MONDAY OCTOBER 18 1993

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26	FT MANAGED FUNDS SERVICE	FINANCIAL TIMES MONDAY OCTOBER 18 1993
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FINANCIAL TIMES MONDAY OCTOBER 18 1993 27 FT MANAGED FUNDS SERVICE FT Cityline Unit Trust Prices: dial (0891 or 0336) 430000, enter 4 and key in the five digit code listed below. Calls are charged at 35p/minute at all other times. International access available by subscription only. For more details call the FT Cityline Help Desk on (071) 873 4378. | Control | Strength | Sith Afficience Grount - Could.

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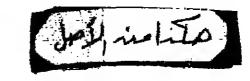
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FT MANAGED FUNDS SERVICE

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FINANCIAL TIMES MONDAY OCTOBER 18 1993

CURRENCIES, MONEY AND CAPITAL MARKETS

FOREIGN EXCHANGE AND MONEY MARKETS

ERM to dominate

DEBATE over how Belgium, and to a lesser extent France, will pull themselves out of their currency dilemmas is set to preoccupy the financial mar-kets this week, writes Peter

John.
The Belgian government is due to release details of its much vamited social pact, the blueprint for wage indexation and employment which is aimed at reducing the countries original debt. try's crippling national debt.

UK clearing bank base fending rate 8 per cent from January 26, 1993

Currency dealers remain sceptical of its immediate benefits and are expected to concentrate on the cleft-stick argument: they say that while currency support by the Belgian National Bank bas failed to maintain the Belgian franc's strength against the franc's strength against the D-Mark the ultimate weapon of higher interest rates might only depress the economy

£ IN NEW YORK

1.5108-1.5115 0.36-0.35pm 0.92-0.90pm 2.90-2.83pm

STERLING INDEX

CURRENCY MOVEMENTS

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Close

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-29.30 -12.10 -11.38 +17.60 -3.36 +34.92 +24.89 +23.78 -8.61 -36.30 +120.05 -32.43

Dec .

cent and short term lending
rates at around 10 ner cen
while the country's inflation is
only 2.8 per cent.
Mr. Carrier

Mr George Magnus, economist at S.G. Warburg, said: "I can't see how Belglum

said: "I can't see how Belgium can get out of this one alive without lower interest rates and a weaker currency."

Many believe that Belgium and France will have to follow the path taken by Spain over the past year. Spain devalued its currency to help its economy and has subsequently been able to lower interest rates to the benefit rather than rates to the benefit rather than the detriment of the currency. Last week it cut its key rate by half a percentage point and the

peseta strengthened.

Many investors have been Many investors have been looking at the fundamental bens fits to the Belgian economy of cutting rates and abandoning its strong franc policy. US money has been pouring in to the Belgian stock and bond markets pushing the former to record highs.

OTHER CURRENCIES

Oct 15 g s

Argentina ... 1.5066 1 5000 0.9900 0.9900

Broad ... 225.00 - 228.51 5.900 - 1.5100

Broad ... 225.500 - 228.51 6.148.265 - 149.265

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Hong Kong ... 11.8755 - 11.8715 7.7250 - 77.260

Iran ... 2592.70 - 2395.75 1582.00 - 1586.00

KornelSith ... 254.15 - 1224.30 800.90 1500.00

KornelSith ... 254.15 - 1224.30 800.90 1500.00

Lineumbourg ... 252.5 3.55

Metrico ... 47025 4.7065 3.1110 1.5100 - 1.5105

Sturfi & ... 5.6665 3.6695 3.7305 - 3.7515

Sturphore ... 27700 - 23715 1.5809 - 1.5809

S.A.f (274) ... 5.0460 - 5.0515 3.3405 - 3.3201

S.A.f (274) ... 5.0460 - 5.0515 3.3405 - 3.5201

Taiwen ... 40.50 40.85 26.60 - 258.00

LA.E. ... 5.6515 - 6.6530 3.6725 3.5693

CURRENCY RATES

0.777073 1.17315 1.53472 41.7982 7.71112 7.7112 1.89851 2.13313 6.72331 1858.55 125.468 8.34294 153.421 1.67408 277.225 0.80817.75

Close High Low Press, 0.8341 0.8372 0.8322 0.9324

only depress the economy further.

Belgium already has an official interest rate of 9.65 per former to record highs.

Elsewhere investors are looking towards German M3 growth figures this week.

Oct 15	Day's spread	Close	One month	På	Part of the last o	
US	1.5080 - 1.5170	1,5120 - 1,5130	8.36-0.34com	2.73	0.94-0.91pm	
Canada	1.9085 - 2.0140	20130 - 20140	0.24-0.17com	122	0.62-0.48mm	
Arthurlands .	27400 - 27900	2,7425 - 2,7525	Lacherte	-0.82	4-5-00	-
tigus	53.60 - 54,00	53.65 - 53.75	16-23cm	-4.58	52-63da	-
Personal	9.9125 - 9.9700	9,8273 • 8,9375	24-31-0radia	-3.78	73-81-48	- 4
reland	1,0400 - 1,0475	1,0405 - 1,0415	0.07-0.03eds	-0.92	0.22-0.27	4
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FT-ACTUARIES	

Jointly compiled by The Financial Times Limited, Goldman, Sachs & Co. and NatWest Securities Limited in conjunction with the Institute of Actuaries and the Faculty of Actuaries

NATIONAL AND	•			FROC	AY OCT	BER 15	1983				HURSOA	00108	ER 14 19	63		LAR DE	<u> </u>
REGIONAL MARKET Figures in parenthese show mamber of lines of stock	6	US Dollar Index	% chg (\$) since 31/12/92	Found Sterling Index	Yen Index	DM index	Local Currency Index	Local % chg from 31/12/92	Gross Div. Yield	US Daler Index	Pound Starting Index	Yen Index	DN INSEX	Local Currency Index	1983 High	1983	(school sco Ass.
		154.83	+23.7	151.77	104.77	129.96	155.45	+28.5	3.32	154.45	151,35	104.91	129.51	154.61	154.83	117.39	119.
Australia (69)		180.87	+29.0	177.30	122.40	151.82	151.89	+29.2	1.04	180.05	170,43	122.30	151.09	150.57	182.28	181.18	
Austria (17)		152.61	+14.5	149.59	103,28	128.10	133,61	+22,3	4.31	152.12	149.06	103.31	127,64	132.99	156,78	131.19	
Belgium (42)		129.18	+11.7	126.61	87.40	108.41	124.49	+16.9	2.72	128.07	125.48	88.98	107.45	123.06	130.38	111.41	113.
Canada (107)		236.70	+27.2	232.02	160.17	196.68	211,43	+33.1	1.07	234.58	229.88	159.33	198.84	209.21	239,12	185.11	195.
Denmark (32)			+73.8	118.56	81.85	101.53	145.05	+89.8	0.71	120.05	117,63	81,54	100.73	144,48	120.96	65.50	59.
Finland (23)		120.96		165.73	114.40	141.91	151.84	+18.9	3.04	167.95	184,57	114.06	140.91	150.10	173.05	142.72	147.
France (97)		169.08	+14.9	132.96	91.80	113.85	113.85	+30.0	1.86	134.24	131,54	91,19	112,64	112.64	138.13	101.59	108.
Germany (60)		135.64		337.91	233.27	289.37	341.91	+55.3	3.03	333.35	326,65	226,41	278.73	330.65	344.73	218.82	
Hong Kong (55)		344.73	+55.6	168.99	118.66	144.71	167.18	+41.8	3.35	171.40	167.96	116,42	143.82	188.27	174,50	129.28	135.
Ireland (14)		172.40	+27.0		47.83	59.33	83,75	+38.7	2.00	69.90	88,49	47,47	58.65	83,00	78,93	53.78	57.
taly (70)		70.69	+28.8	69.29	104.08	128.14	104.09	+25.6	0.79	152.51	149.44	103.58	127.99	103.58	165.91	100.75	109.
Japan (469)		153.83	+46.5	150.79		382.24	446.11	+69.4	1.55	451.67	442.59	306.77	378.99	442,45	455.41	251.68	251.
14-4		455.41	+74.2	446.40	308.15		6024.34	+7.2	0.82		1725.92	1196.31	1477.95	5990.97	1771.56	1410.30	1331.
Manager (10)		770.56		1735.55	1198.11	1486.17		+28.1	3.40	191.95	185.09	130.37	181.07	159.01	194.29	150.39	159.
Mexico (19)		194.29	+28.3	190.45	131.47	163.09	161.04		3.58	64.12	62.83	43.55	53.80	61.61	64,18	40.56	39.
Netherland (24)		64.18	+49.6	62.91	43.43	53.87	61.93	+39.8		179.80	176.19	122.13	150.8B	173.09	182.13	137.71	136.
New Zealand (13)		182.13	+32.3	178.53	123.24	152.88	175,45	+35.7	1.45					232.42	332.52	207.04	188.
Norway (23)		332.52	+55.8	325.94	225.01	279.10	240,35	+49.0	1.41	321,45	314,59	218.34	259.73		217.61	144.72	153
Singapore (38)			+46.9	213.31	147-25	182.65	196,68	+25.2	2.67	218,74	212.38	147.21	181.87	197.31			
South Africa (60)	4	217.61		141.47	97.60	121.14	142.74	+41.0	4.09	143.15	140.28	97.23	120,12	141.74	144,32	115.23	112.
Spain (42)		144.32	+23.8		139.35	172.86	240.00	+38.5	1.41	202.51	198,44	137,55	169.93	237.61	205,93	148.70	151.
Sweden (36)	}	205.93	+24.4	201.86	99.24	123.10	129.68	+26.3	1.67	145.75	142.82	99.00	122.32	128,59	146.82	108.91	114.0
Switzerland (50)		146.64	+29.8	143.74			187.70	+11.2	3.81	189.58	185.75	128.74	159.05	185.75	193,97	182.00	167.
SWIZERIAN COMMEN		191.48	+11.1	187.70	129.56	160.71		+7.6	2.68	190.59	185.76	129,46	159.93	190.59	191.58	175.38	168.0
United Kingdom (218		191.56	+7.6	187.77	129.63	160.80	191,56	+7.0	2.00	10000	100.70			10000			_
USA (519)		101100			400 70	136.08	151.36	+21.2	2.98	160.59	157.36	109.07	134.76	149.88	162,97	133.92	135.5
- C240)		162.11	+19.2	158.90	109.70			+40.9	1.25	189.93	168,11	129.00	159.37	194.17	132.53	142.13	142.3
Europe (748)		192.53	+29.8	188.73	130,28	181.81	195.96		1.06	159.22	158.01	108.14	133.60	112.37	168.80	105.89	113.
Nordic (114)		180.81	+46.6	157.63	108.82	134.98	113.15	+28.0		159.87	158.48	108.44	133.68	127.58	182.88	117.26	122.7
Pacific Basin (713)		161.24	+34.0	158.05	109.10	135.33	129,80	+24.9	1.86		182.95	126.83	156.69	185.99	187.68	171,51	184.7
Euro-Pacific (1461)			+7.7	183.97	127.02	157.56	186.99	+7.9	2.69	186.70						112.51	116.4
North America (626)		187.68	+25.1	140.27	96.85	120.14	130,06	+28.6	2.45	141.81	138.96	98.34	119.02	128.81	143.56		
Europe Ex. UK (530).		143. <u>10</u>		224.25	154.83	192.05	211.84	+46.9	2.74	224.54	220.02	152.53	188.43	207.71	228.77	152.70	156.
Pacific Ex. Japan (24	41	228.77	+46.9	158.57	109.47	135.79	130.71	+24.5	1,88	160,22	157.00	108,63	134.45	129.88	162,89	118.51	123.4
World Ex. US (1647).		161.76	+33.2			141.59	145.80	+18.1	2.01	187.38	164,01	113,69	140,45	144,84	188.89	134,22	134,
WORLD EX UK 1048	1	168.66	+23.6	165.33	114.14		149.15	+17.3	2.18	169.12	185.72	114,88	141.92	148.10	170.48	137.29	137.5
World Ex. UK (1948)-		170.46	+22-1	167.00	115.36	143.09		+14.5	2.78	180.18	178.54	122.38	151.20	174,27	181.53	157.47	153.7
World Ex. So. Af. (21)		181.53	+14.1	177.94	122.85	152.40	175,63	+1422								_	
World Ex. Japan (169	. ,			187.30	115.50	143.27	149,58	+17.4	2.18	169,33	165,93	115,02	142.10	148.55	170.68	137.32	137.5
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raterios!	124.01	124.18	124.27	124.42	124,36	124.21	125,20	108.67	125.20	50.53
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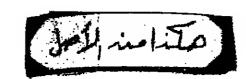
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30	LONDON SHARE SERVICE
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FINANCIAL TIMES MONDAY OCTOBER 18 1993 31 LONDON SHARE SERVICE DIVESTMENT TRUSTS - Cont. WYN'S Die Der Deistends Last Chy
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Ketchup in his veins

Mike Quinlan, chairman of McDonald's, talks to Guy de Jonquières

f there is one thing Mike Quinlsn, chairman of McDonald's really relhes, it is getting out and selling the products. When he can, he drops in at one of the company'e 14,000 restaurants, dons a smock and pitches in with employees in the kitchen

"I can make hamburgers and Big Macs and fries. I'm a great counter person. I can work the drive-through," he says. "The rectaurant activities have always been my favourite part of McDonald's. That's where we make or break the relationship with our customers."

Often, he will quiz diners about the quality of food and service, telling them only later what his job is. "I love relating to the customers. I'm very interested in what our constituency wants from us and how we can do things better. That is how you grow the business."

The hands-on enthusiasm rings true hecause the Mcfamily, as Mr Quinlan calls it, has been part of his life. man and boy, for 30 years. A jaunty 49-year-old who still speaks with the distinctive lift of Chicago'e Irish west side where he grew up, he started working with the company part-time to supplement his income while at college.

He joined full-time on graduation, after turning down a place at law school because he could not afford the fees. By his own admission, he is a 'lifer" with the company. As the saying goes in McDonald's, he has ketchup in his veins.

With every passing week, more ketchup is poured on more McDonald's hamburgers in ever more restaurants around the globe. A further 900 will open this year, more than twice the total number in operation when Mr Quinlan joined the company. Next year, he aims to add another 1,000. On top of that, a proliferation of smaller outlets known as "special venues" is bringing never reached before.

"We are in locations we never thought of seven or eight years ago. Airports, service stations, superhighways, cruise ships. Hospitals are going like crazy. We are in Wal-Mart Ithe US discount store chain! Tesco in Britain. We bave kiosks all over the world. We're already on one train in Switzerland, and we'll soon be on another in Germany.

giving the green light to the Maas-

tricht Treaty of European

Union, is a cause of celebration

on at least two counts. After

nearly two years of cliff-hanging setbacks and delays, the

treaty can at last come into force. No one knows any more

how this treaty will perform,

hut at least it has now been

hrought more or less intact to

As a result, next week's

European Community summit

in Brussels should be a jolly

party. We can expect plenty of

the usual rhetoric from the

usual Euro-enthusiasts about

the deathless claims of the

European ideal: and we can

expect John Major to put in his

predictable penny's worth, to reassure the Tory faithful that

the treaty means even less

than it says, thanks to his

doughty defence of the

But the second cause of cele-hration is that the German rul-

ing laid down an important

marker for the need for politi-

cal legitimacy. In the run-up to

the decision, there had been

widespread apprehension that

the red-robed judges in Karls-

ruhe might tie the treaty in so many legal knots as to bring it

crashing to the ground. Some

feared the court would rule

that the transfer of powers

inherent in the treaty would be

incompatible with German sov-

ereignty; others that Maas-

tricht was unacceptable

because it gave too few powers

Instead, the judges merely

ruled that the Maastricht

treaty in particular, and the

Community in general, are

to the European Parliament.

the starting line.

national interest.

growth. But then, he says, he never has been able to. He recalls that Raymond Kroc, the company's late founder, was first asked almost 30 years ago when the market would be saturated and replied laconically: "Hell, I don't know." "The answer," says Mr Quinlan, "is

that you can't give an answer." Nonetheless, he guesses that sales will at least double in the next decade - a conservative estimate, given that they trebled during the last one. "In 15 years," he says, "I think we will be a *giant* company."

Even in the US, where McDonald's has one restaurant for every 29,000 people and faces steadily increasing competition, he sees plenty still to go for. The game may be all about increasing chare in a mature market, but McDonald's aims to do so profitably by offering more varied menus, such as chicken and pizza, lowering the hreak-even level of restaurants and sourcing raw materials more efficiently.

Outside the US, by contrast, the potential has barely been scratched. Though the company's operations span almost 70 countries, in most the fast-food market is in its infancy. In some, the opening of a new McDonald'e amounts to a minor cultural revolution.

The restaurant in Moscow's Pushkin Square continues to generate sales volumes 12 times higher than the norm for outlets of its size, almost four years after it opened. The first two restaurants in Poland set records for customer traffic, while operations in China are profitable after only 18 months. However, political uncertain-

ties, limited consumer spending power, supply difficulties and the time needed to estab-lish the McDonald's hrand all make Mr Quinlan cautious about the speed of future expansion in the developing world. During this decade, he is counting on western Europe to act as the main engine of

The prospect of increased size and management complexity does not daunt him, he says, because his rise through the ranks has given him firsthand experience of almost every aspect of the company's operations. Most of McDonald's top managers have also worked their way up from the bottom, a system he says provides stability and continuity. What prevents the culture He can see no end to the from becoming inward-looking

IAN DAVIDSON

on EUROPE

essentially conditional on the

legitimation of popular democ-

racy. And since popular democ-

racy is still primarily expressed through national

parliaments, the consequence

is that Maastricht cannot be

implemented without the sup-

port and approval of the German parliament. "The democ-

racy principle does not prevent

Germany joining a suprana-

tionally organised community of states," said the court. "But

tion and influence by the peo

ple are secured within the

of the member states who must

legitimate this through their

national parliaments . . . In

addition, and increasingly as

European nations grow

together, democratic legitima-

tion is conveyed by the Euro-

pean Parliament elected by the

"If, as is currently the case,

the peoples convey democratic

legitimation through national

parliaments, then the demo-

cratic principle sets limits on

the expansion of the tasks and

powers of the European Com-

munities. The German Bundes-

tag must retain tasks and pow-

citizens of member states.

association of states.

precondition of membership

a guarantee that legitima-

"It is principally the peoples



'I can make hamburgers, Big Macs and fries' tles to open restaurants in

is the nature of McDonald's compact with Its 9,000 franchis, some of whom are now in their third generation. "We don't stand hack and say: 'Here's your franchise, pay us your royalty, now sink or swim.' We only succeed when they succeed. If their sales don't grow, our profits don't grow. That has a way of sorting things out, of prioritising way you do business."

PERSONAL FILE

1944 Born Chicago. Educated Loyola University, BS,

1963 Part-time mailroom worker, McDonald's, 1966 Joined McDonald's full time as assistant buyer. 1980-82 President, McDonald's

USA. 1982-89 Chief operating officer, McDonald's. 1987- Chief executive officer. 1989- Chairman.

McDonald's prides itself on imposing uniform standards and business systems throughout its operations, while still instilling in each of its franchis s spirit of entrepreneurship. "I can go to restaurants in Norway. Singapore, Butte, Montana, or Glasgow, and hon-est to God, it's like talking to associates I've known for 25 world and feel I'm a welcome member of the family."

To go on working, the formula needs continuously to be refined and improved. "We cannot allow ourselves to become a commodity. When customers think of McDonald's, they have to think of us as different. Whether it's our marketing, our children's programmes, our hirthday parties, our community and charitable involvement, people expect a

As a description of political reality, this is an admirably

pithy and middle-of-the-road

synthesis - as far as It goes.

German governments have

long been in the forefront of

those seeking a strengthening

of the Community's political

institutions, especially the European Parliament. But the

plain fact is that the Commu-

nity is still essentially a grouping of nation states. As a

result, democratic legitimation

has to come largely through

judgment does not go far enough: it describes reality,

hut does not offer a solution to

the political challenge of Maas-

tricht. It is easy to underline

the point that the Community

is critically dependent on dem-

ocratic support; not just because all claims to political

legitimacy in Europe hang essentially on popular democ-

racy, but because the Maas-

tricht treaty in particular came

within a whisker of being

thrown out by the voters. Since power still lies mainly

with the Council of Ministers,

it is also easy to see that democracy must come mainly

through national parliaments:

denunciations of the Commu-

nity as a threatening mega-

state are simply the product of

delirious fantasy.
The problem is that the Com-

munity's popular legitimacy

has been severely shaken; the

challenge facing the 12 is not

just working out now to imple-

ment a treaty whose practical

credibility has been hattered

hy events but even more

important, how to recover pop-

ular support for the general

objectives of the enterprise.

Unfortunately, the Karlsruhe

national parliaments.

The people and the treaty

bit more of us." This view of McDonald's as one big happy family, united in the quest for excellence, is not universally shared. In the US, fast food has become a byword in some quarters for a lowwage business offering dreary jobs to a shiftless army of unskilled workers. To its crit-

ics overseas, on the other

hand, the company is the ulti-

mate symbol of the spread of American throw-away culture. Mr Quinlan will have none of it. True, the company relies heavily on casual workers, and turnover among counter staff is high. But it offers training and unrivalled promotion opportunities to young people who stay with it. Furthermore, as he describes it, work in McDonald's restaurants is not the soulless routine alleged by some critics, but a genuine

community enterprise. The younger people use the older full-time staff as consig-lieri. They ask them advice about life, not just about the job. Each store takes on the characteristics of a family. You may think I'm kidding, but I'm not. A thousand little dramas are played out every day in each of our restaurants."

Hostility, he insists, is often the result of ignorance. Such was the case with the French farmers, who recently proagricultural trade hy picketing its restaurants and hurning effigies of Ronald McDonald. The company defused the situation by patiently pointing out that 90 per cent of the raw materials used in its restaurants were locally produced.

Displays of good corporate enough to quell frequent resistance to McDonald's choice of new sites. It has recently fought lengthy planning bat-

The Karlsruhe prescription

is that the Bundestag (and

other national parliaments)

must exercise a bigger role in

the Community process. This is a very proper thought, from a national point of view. But it

is not clear how, in operative

terms, it can be squared with

any reasonably expeditious decision-making process in

It is the role of parliaments to control initiatives taken by

governments. But if all 12 par-

liaments increase their control-

ling function, the unstated

premise of the prescription is

that any or all of them must be

able to slow the Community

right down, and perhaps even

stop it entirely. This could

only help restore legitimacy

to the Community in a very

limited sense, and on the

narrow assumption that the

voters only want to be reas-

sured that nothing much will be decided in Brussels in

square a systematic increase in

the controlling power of

national parliaments with

majority voting in the Council

of Ministers, which will be

strengthened by the Maastricht

treaty. Moreover, even if the

basic rules remain the same.

majority voting will be further

strengthened if the Community

is enlarged, because more

members mean more countries

Somehow, the member states

have got to come up with some

of prosperity and economic

growth, and is seen to do so.

can be outvoted.

future.

Quarterbacks on the wrong pitch

The merit of co-opera-tion between govern-ment, big business and unions seems an article of faith in the White House. The clearest sign of a tilt toward "corporatist" policies was President Bill Clinton's recent announcement that the federal government would join forces with the Big Three American carmakers to develop a new generation of fuel-efficient supercars. "We want to position the US auto industry to be the principal force in the marketplace of the next century," said Mr Al Gore, the vice-president. He added that it was absurd that commercial carmakers were still dependent on the internal combustion engine, a technol-

ogy dating from 1876. The \$500m supercar initia-tive is the most visible element in an emerging web of industrial policies. The administra-tion has allocated \$1.5bn to the private companies create the world's first "information superhighways". It is shower-ing subsidies on high-tech industries and even helping dinosaurs such as shipbuilding. To appease trade unions, there is talk of a substantial increase in the minimum wage and, conceivably, changes in labour laws to improve the bargaining position of workers. Spending on industrial pol-icy is admittedly trivial in the

context of a \$1,500hn budget. But the economic culture in Washington is changing. The Competitiveness Policy Council, a corporatist coalition of husiness, union and government officials, is urging Mr Clinton to make competitiveness "the centre-piece of US economic policymaking", Excited hy the deal with Detroit, it advocates a depress ingly mushy set of policies, including tax subsidies for investment and regular doses of devaluation to ensure "equitable" trading conditions for US companies. The council's chairman, Mr Fred Bergsten, also advocates "managed" trade as a way of levering open

foreign markets. Co-operation between government and husiness to



MICHAEL PROWSE

improve competitiveness may seem harmless enough. Now that the cold war is over, the huge financial resources of the federal laboratories surely should be harnessed to com-mercial as well as military goals. In its quest for jobs and higher living standards, why shouldn't the White House aerve as an inspirational "quarterback" to US business?

The pragmatic case against corporation is that, if Washington throws its weight behind American husiness, Brussels and Tokyo are certain to respond in kind. Instead of the arms race of past decades, Mr Clinton could face an equally stupid subsidies race, with ever larger industrial handouts being required to off-set the largesse of competitors.

But there are also matters of principle at stake. Corporatism is a crude form of economic nationalism. The hard task for government today is surely to establish global rules and insti-tutions that serve the eco-nomic interests of all individuals and companies - regardless of their origin or nationality. The best route is normally unhindered competition. In a market system, the government should be referee, not quarterback or coach.

Competitiveness, in any case, is a dubious concept on which to huild an economic strategy. The US can become more competitive only if other regions become less competitive. Should the US really make policies designed to reduce the competitiveness of Europe and Japan the centrepiece of economic policymaking, as Mr Bergsten's coun-cil suggests? Of course not: the

concentrate on its fundamental economic duties, such as keeping inflation under control, balancing its budget and minimising the distortions imposed by taxes and regulations. Eco-nomic growth and the US's performance relative to other countries will be determined largely by factors beyond the control of politicians, such as private agents' propensity to work, save and take risks.

To see how little competitiveness may depend on public pol-icy, consider Mr Bergsten's own Institute for International Economics. It may be a nonprofit-making body, but as a provider of economic services it is rather typical of the new information economy. It has to compete, moreover, with many similar think-tanks and insti-tutes, both in the US and abroad. What makes Fred competitive? There are many fac-tors, including the skills of his staff. But the most important is Mr Bergsten's own entrepre neurial flatr. He makes shrewd judgments about the economic topics that are going to hit the headlines and markets his

timely products aggressively.
It is precisely the entrepreneurial ability to predict how consumer demand will change and to find cost-efficient ways of suppling new products that governs business success. Companies such as General Motors and IBM have run into trouble not because they lack talented staff or financial resources but because of a loss of entrepreneurial alertness.

Competitiveness is a near obsession for the administration and allied groups such as Mr Bergsten'e council. Yet their reams of analysis say lit-tle, if anything, about entrepre-neurship. The emphasis on failings in public policy is so total that the actual process of wealth creation is almost entirely overlooked. You would never suspect from the literature on competitiveness that the US's surge to global economic dominance at the end of the 19th century occurred at a time when federal spending was 3 per cent, rather than 23 per cent, of GDP.

JOTTER PAD

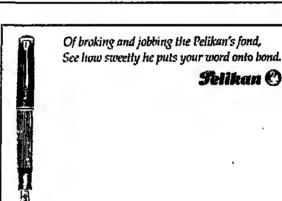
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Hamostead, north London, in the Piazza di Spagna in Rome and near the Eiffel Tower in

Paris. (It eventually won the

Mr Quinlan replies that

McDonald's will go as far as it

can to tailor the design of its restaurants to local conditions.

But when all is said and done,

the answer lies in the con-

sumer response when we

finally open the doors. Piazza

di Spagna opened with hlock-

and I've seen the same thing

happen all over the world. If

we are providing people with what they want, they will tell

us if they want us or not. I rest

leagues around the world, I

think we all have a large dose

of humility and a genuine love

kind of a religion with us. I

don't think that's corny. It's

the lifeblood of our business."

serving our customers. It's

When I look at my col-

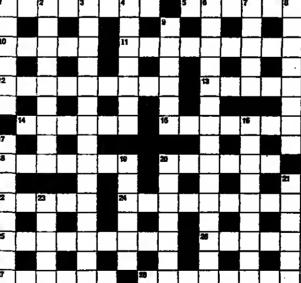
my case on that.

ster volumes from day one,

first two, but lost the third.)

Selikan 🕙

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ACROSS

1 The English way? Ah, no but a foreign sort (8)

5 Pin inserted into a joint (6) 10 Embarrassed after some hesi

11 A portion's put out to kill ver-min (3,6) 12 Time and place (9)

13 They're up for the celebration 14 S. African doctor brought in hy military aircraft (6) 15 Refreshed sheep tear about (7) 18 Old master of the exchange

20 Goes off for the booty (6) 22 A number had a row, having imbibed (5)
Banquet for vegetarians? (4-5) 25 I rant and rave about account

26 One French boy or girl (5) pupils (6)
27 Former name to cause s stir 23 Maurice has a heart of gold

positive answers to the problem of legitimacy. And that 28 A literary supplement? (8) means finding ways to ensure that the Community meets the needs of electorates, in terms

DOWN

1 Exact payment for something on another's account (6)

2 Time for a walter (5)

3 With which one has a meal with the rest (3.3.9)
4 Bird dog (7)
6 When robbers start or finish work? (8-3,4) Don't use the tawse indiscrim-

The nearest one can get to a fight (8)
9 He attacks the copper with

acid (6)

16 Having made good progress
we put everything up to capital (4.5)

17 It's presented of court (8)

19 Poor golfer perhaps, still gets
down the hole (6)

20 Main plant producing wonder
in children (7)

21 Dancing master selected

The solution to last Saturday's prize puzzle will be published with names of winners on Saturday October 30.

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FINANCIAL TIMES SURVEY

INTERNATIONAL TELECOMMUNICATIONS

Monday October 18 1993



ROWTH, competition and privatisation are today's watchwords in the international telecommunications industry.

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me

A few facts give the big picture:

• Last year the market for international telecoms traffic grew by around 13 per cent despite widespread recession, according to TeleGeography's 1993 survey of the industry * That was about ten times the

growth in global GDP over the year. Around 20 privatisations of national public telecommunications operators (PTOs) are likely to take place in the next three to four years. Taken together, the market capitalisation of the newly privatised companies is likely to be around \$150bn, according to estimates by Mr Richard Ryder, telecoms analyst at Salomon Brothers in London. Worldwide, some 46 telecommunications companies now have separate listings. By the end of the decade that number could have doubled.

 In Europe alone, according to Mr Ryder's estimates, telecommunications companies could be a larger equity sector than banks by the end of the decade. This poses unprecedented challenges and opportunities for the sector.

 Serious international competition between rival alliances of telecommunications companies is becoming a reality for the first time. In the last six months both American Telephone & Telegraph, the US giant, and British Telecommunications have formed international alliances with global pretensions. Both are bidding to become prime outsourcer to the world's multinational companies. A bost of smaller alliances have sprung up, with most PTOs debating which international

• The eruption of mobile communica-



The world's strongest demands for telecommunication modernisation are in Asia-Pacific regions and Latin America. China alone is siming for 100

Where international telecomm traffic originates 1992 total: 42.5 billion minute

of US and European operators ordered a

new undersea fibre-optic system from

AT&T and STC Submarine Systems, the

UK-based supplier. Called Tat-12 it has

around five times the circuit capacity of

the last system built by STC, and around

12 times the capacity of the first fibre-optic

undersea system (called Tat-8), which

dates back only seven years. In real terms, the price of successive

undersea systems has remained constant,

reducing the cost per circuit from around

In the developed world, the problem is

not one of generating sufficient telecoms capacity, but of finding practical and

affordable uses for the buge quantity

Privatisation and liberalisation will

introduce a bost of new operators, small and large, dedicated to the task. Mr Morris

views them as an internal dynamic likely

to force the industry into still faster

growth - "liberalisation should fuel con-

tinued privatisation efforts throughout the

world and contribute to the continued

However, the developed world is only

Continued on next page

one part of the picture. Most countries

have minimal infrastructure and few tele

already available - or soon to be so.

\$45 (Tat-8) to \$5 (Tat-12).

growth of this industry."

Era of explosive growth

The impetus behind expansion is the international shift towards services, increased globalisation, new technology, declining costs and prices, and deregulation, reports Andrew Adonis

tions into the consumer market seems imminent. For the first time, network operators are marketing packages with wide appeal beyond the business sector. Most analysts project a trebling of the number of cellular subscribers by the end of the decade. If this year's growth figures are sustained, and cheap mobile phones hit the high street by the mid-1990s, that could be a conservative estimate:

Growth in international telecoms traffic is slower than in the late 1980s, when it stood at between 15 and 20 per cent a year. But it still far exceeds growth in the international economy, and is set to continue doing so for the foreseeable future,

However, It is the nature as much as the size of the recent growth which signifies. Mr Gregory Staple, editor of TeleGeogra-phy, notes that in the US, Japan, and the the volume of international traffic added by new carriers last year was, for the first time, greater than the volume of traffic added by the main established car-riers. In the US, MCI added more traffic than AT&T; Mercury outperformed BT in the UK; IDC and ITK together added more traffic than KDD in Japan. "This suggests that head to head compe-

tition for international market share will be the reality for most carriers in the _years ahead," he says.

"It also implies that the half dozen new international carriers which will cut their teeth in the early 1990s - in Sweden, Australia, Malaysia, Indonesia, Israel and Chile - may have e harder time than the first generation."

Competition and privatisation are proceeding hand-in-hand. This June, the European Community agreed a timetable for competition between operators for national voice traffic. All the EC's larger countries have agreed to allow new operators to compete with their PTOs by January 1998 - save for Spain, which has an extra five years grace.

The thorny question of allowing opera-tors to build new infrastructure of their own has been deferred. But it would be extraordinary if that were not also permit-

Y 1998, it is a fair bet that most of western Europe's leading PTOs will be wholly or partially in the private sector. The remaining government stake in British Telecommunications was sold off this summer. Germany, Denmark and the Netherlands are all proceeding with sales - the last two within the next year.

The Spanish and Italian PTOs are already listed, and the disposal of more state shares is imminent. France's Balladur government has begun privatising in earnest, and telecoms is unlikely to be far down the track. Several of Europe's smaller states are thinking of privatising their PTOs, albeit after an interval of corporate status.

Analysis discount fears of market saturation. Mr Robert Morris, international telecoms analyst at Goldman Sachs, notes in his latest global survey that in recent years the telecoms sector has consistently outperformed world market averages. "In every country we examined, the pace

of unit growth - whether it be access line growth, calling volumes or network utilis-ation - outstripped the pace of real domestic GDP growth", he says.

The main reasons for the growth are the

international shift towards services; increased globalisation; new technology; declining costs and prices; and deregula-One point is of particular note. As Mr Morris puts It: "The industry is character-ised by large up-front investments with

very low marginal costs, such that the unit cost of production is next to zero, contributing to attractive operating leverage and asset turnover rates."

To give an idea of what this means in practice, consider the US-UK translatiantic telecoms route. This summer a consortium

Rapid erosion of monopolies ☐ In Europe and beyond,

. IN THIS SURVEY

governments are rapidly disengaging themselves not only from the management, but also the ownership, of public telecom operators (PTOs). A review of the Impact of privatisation and illogratioation pages 2 to 5

☐ National developments: focus on Germany and the UK .. ☐ Eastern Europe

Outsourcing: the race to supply □ North American scene

 Asia-Pacific developments: focus on Japan and China

☐ Multimedia: new breed of communications page 11 □ Value-added services: innovation or

D Big markets for mobile communications _ .. page 13

 Equipment suppliers: pressures of technological change page 14 ☐ Baising finance for telecom

projects: there is no quick fix . page 15 Private network services; advances in personal number systems - the shape of things to come page 16

Editorial production: Michael Wiltshire



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INTERNATIONAL TELECOMMUNICATIONS 2

Regional contrasts remain stark

Continued from previous page: phones. Of 133 countries recently studied by the International Telecommunications Union, 70 have fewer than five exchange lines per 100 people. Sweden tops the league with a "teledensity" of 68 (i.e. 68 exchange lines per 100 people); Chad takes the bottom slot with a teledensity of 0.07. Most countries are far closer to Chad than to Sweden - including most of Asia, Latin America and eastern Europe. Unspurprisingly, teledensity

correlates closely with national wealth. Virtually all countries with annual per capita GDP of more than \$7,000 have a teledensity higher than 30. Most of the world has per capita GDP of less than \$2,000, and a teledensity of less than five.

The contrast is as stark within as between regions. In Asia-Pacific, Hong Kong has a teledensity of 49 and Singapore 40, whereas the Philippines languishes at 1.5 and Thailand at 2.7. Even within the Euro-pean Community, Portgual (at 32) and France (at 52) are poles

For most countries, then, line growth is the overriding priority. In many developing and emerging market states. the appetite for more and better basic networks will lead to a telecoms explosion in the next decade every bit as dramatic as that being forged by liberalisation, privatisation and mobile communications in the developed world. Indeed, all three will also be in evidence in developing countries, as governments look for new sources of investment and investors come to see wireless local networks as viable alternatives - not just supplements, as now - to wireline networks.

Asia-Pacific is the region set to experience fastest line growth. Mr Andrew Harrington, telecoms analyst with Salomon Brothers in Hong Kong, expects the total number of lines in the region to have doubled by the end of the decade, That means 100m new access lines, 60m of which will be in China.

Should its government provide a climate favourable to sustained investment by overseas companies, the opportunitles in China are mind-boggiing. The Bejing government's target is to quadruple China's network from 20m to 80m lines. That means more new lines



due beangybe on an edvanced subwhich lays under the sea-bed and ent

than the existing networks of Britain and Germany put together. To make significant progress fast, Mr Harrington is convinced that China will be forced to allow direct foreign investment by overseas operators within the next year - "it will probably take the form of joint ventures in which Chinese partners retain majority stakes," he says. "But if they want to expand fast, they have got to allow in foreign equity, and a reasonable degree of management control by the overseas investors."

Back to the developed world, the growth of mobile communications will dominate industry headlines over the coming year. At a recent FT conference, Mr Seth Myrby, chief executive of Telia Mohitel, predicted that nine of ten Swedes would have a mobile phone by the end of the decade. Sweden already has the highest level of cellular penetration in the world (nine in 100 inhabitants). but that nonetheless constitutes one of the boldest of the year's claims by a senior indus-

try executive.

Bold, hut not fantastic - if you include portable phones linked to wireline connections. One by one, cellular operators in Europe and the US are announcing packages for the residential market. The incentive for them to do so comes partly from increased competition: rival cellular operators to PTOs are now licensed in most

west European countries, and

many beyond. It is also the

consequence of the building of new digital cellular networks

with far greater capacity and reliability than their analogue

predecessors. Although handset prices remain prohibitive for all hut the highest-income private consumers, prices are falling fast, and imaginative marketing gimmicks are making the mobile phone a plausible competitor to the fixed-line phone for the first time.

So far, the plaudits go to Mercury One-3-One, the UK network jointly owned by Cable and Wireless and US West, which launched its network last month with a special residential tariff offering free

local calls in the London area in the evenings and at weekends. Rival operators have slashed their London prices, and mobile phones are now in the shops of all the main electronics retailers.

In the US, the Federal Communications Commission last month laid down ground rules for personal communications services (PCS) networks. unveiling what could eventually he a multi-billion dollar business. PCS, similar to cellular, uses digital technology and greater density of cell sites to improve reception and multiply capacity: see report, page 8. The FCC has decided to allow up to seven licences in each PCS market, with two for larger carriers and five for smaller ones. A significant expansion of US cellular competition is in the offing.

For the leading operators, a

delicate balence has to he struck between securing one's position in the home market and staking out claims abroad. The recent activities of AT&T and BT, the most aggressive international operators, are e telling commentary. In June, BT hailed its \$5.3hn alliance with MCI, the US carrier, as the telecoms deal of the century. The deal involved BT taking a 20 per cent stake in MCL the second largest US long-distance carrier, and the formation of a \$1bn joint venture company with MCI to stake out claims in the international market.

This summer AT&T set up an international outsourcing venture of its own, called Worldsource, But not to be outdone in the investment league, in August It spent more than \$12bn buying McCaw, one of the largest US cellular companies, to reinforce its position at

Talk to the executives of both companies, and the word "multimedia" is more likely to come up than "telephone." Services spanning the telecoms/computing/entertainment divides are already on offer; the prospect of new multimedia offerings causes more excitement than any other subject in today's telecoms industry. Later articles in the survey explain why and how.

* TeleGeography 1993, Tele-Geography Inc., Suite 1000, 1150 Connecticut Ave. N.W., Washington DC 20036, USA. \$575]



PRIVATISATION IN EUROPE

Monopolies are being quickly eroded

Public perception often lags behind concrete reality - and telecommunications is no exception, reports

Andrew Adonis

CROSS western Europe. the general perception is that telecommunications are monopoly, state-run ntili-ties. In reality, their monopolies are being fast eroded, and governments are rapidly disengaging themselves not only from the management, but also the ownership, of public tele-communications operators

A decade ago, most of western Europe's PTOs were effectively government departments. Their policy was determined by the state; their finances were to all intents and purposes part of the state bud-get; decisions about tariffs and investment were taken by ministers; and the PTOs were generally gronped together with postal services to make a single state communications util-

No longer. With a few exceptions, PTOs have been separated from postal services. Most PTOs have also been given corporate status, turning them into free-standing companies with one shareholder, the state. Although their hoards are appointed by ministers, who also determine overall policy, operational independence

is the norm.
There is no intrinsic reason why corporate status should not be a settled state. However, for most PTOs it is turning out to be a temporary staging post to full privatisation. In many cases it was always intended to be that way; but even where that was not the intention. pressures from overhurdened state budgets and the liberalising international telecoms market have forced the pace. Within a year or two, only Austria, Norway, Luxembourg and Switzerland are likely still to have old-style state-run

The PTOs of Belgium, Finland, France, Ireland and Sweden are corporations, or soon will be. The first four all appear set to take further steps towards privatisation in the near future:

 Belgacom, the Belgian PTO, recently formed a 75:25 joint venture with Pacific Telesis, the US regional operator, to operate its new GSM cellular service. The step is widely seen as a trial run for privatisation of the company as a whole, although a strategic alliance with another US operator is

thought to be unlikely. • Telecom Finland is about man PTO, will be the largest.

tor, appeared to be the next in the queue, under a scheme voted through the Greek parliament earlier this summer to give a 35 per cent stake to a strategic partner with management control, with another 14 per cent to be floated on the Greek stock exchange early next year. However, the recent return of the Greek socialists, under Mr Andreas Papandreou, is likely to scupper the sale.

OTE, the Greek state opera-

though in what form remains to be seen. There will be at least three significant flotations in the

The socialists are pledged to

keep OTE in the state sector,

next two years: Dentsche Telecom, the Ger-

The forthcoming privatisation of Deutsche Telecom - Germany's public telecom operator - will be unusually complex

to become a corporation, and from next January faces strong competition for voice traffic in its home market from a new consortium of regional opera-

 Telecom France did not feature in the first batch of state companies to he priva-tised by the centre-right Balladur government. But It is likely to appear on a future

• Telecom Eireann, the Irish PTO, is engaged in talks with Cable and Wireless, the UK group, about a possible alliance. Although the Irish gov-ernment insists that privatisation is "not on the agenda," few Irish observers believe an alliance without a formal stake for the strategic partner will be Telecom Eireann's final desti-

nation The rest of western Europe's PTOs are still further down the privatisation track. With the sale of the last tranche of government shares this summer, British Telecommunications is now entirely private owned.

Constitutional amendments to enable the privatisation to go ahead are about to be introduced into the German Parliament, with a first stake in the 1996. Germany's will be an unusually complex privatisation, partly because of the delicate legal status of Deutsche Telecom and its employees, and partly because of the exigencies of a cross-party agreement with the opposition Social Democrats necessary to get the required parliamentary

majority for the privatisation egislation.

• KPN, the Dutch posts and telecoms operator, is to be privatised in two stages over the next three years. The govern-ment has indicated that it intends to retain only about 30 per cent of the shares after the second sale.

 A minority stake in Tele Danmark, the Danish Operator, will be sold early next year. TD is already a publiclyquoted company, and earlier disposals have reduced the state's holding to 89 per cent. Those four are unlikely to be the only offerings on the horizon. Some of the corporations might reach the market in the . same time-span. The Turkish government appears to have reached tentative agreement on a partial sale of PTT Turkey. Part or all of the PTOs of Spain, Italy and Portugal are already publicly listed companies, and a reduction in the government-owned stake is likely in all three.

In Portugal and Italy, it will go hand-in-hand with a significant re-organisation of the industry. The operating subsidjaries of Stet, the Italian telecoms holding company, are to be brought together into a single company, provisionally named Telecom Italia. The three-company Portuguese industry is to be similarly rationalised.

No privatisation blueprint exists. Although the PTOs are engaged in a common business, and many of them have comparable debt and investment profiles, each PTO has its own problems and peculiarities. Nonetheless, two models are emerging. For small PTOs the favoured option is to sell a stake of about a third to an established international operator, in return for management expertise, investment and marketing resources. A further, though smaller stake can then be floated on the domestic stock exchange, leaving the state with a 51 per cent stake at the outset. For larger PTOs, a conven-

tional flotation is the most likely course. This need not and in most cases will not preclude formal alliances with other international operators.

A host of issues have to be resolved on a case-by-case basis - valuation, regulation. reserve government powers and guarantees of employee rights being only the most vexatious. Needless to say, consultancies and merchant banks are salivating at the prospect.

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EUROPEAN COUNTRY STATISTICS

COUNTRY	Population in militions	Access lines (m)*	CAGR, 1986 to 1991, %	Lines per 100 popa.	Mobile subs. (*000s)	CAGR, 1986 to 1991, %	going traffic
Belgium Denmark	9.84	4.10	4.6	41.6	51.4	68,4	823
	5.15	2.97	2.6	57.7	175.9	25.0	404
	57.05	29.10	4.0	51.0	290.0	100.0	2,182
Greece	80.33	33.4	3.5	41.6	532.5	117.5	3,557
	10.06	4.19	5.4	41.7	14.3	n/a	248
	3.52	1.05	6.7	29.8	32.0	84.4	83
Netherlands	57.05 15.13 9.85	23.07 7.18 2.69	5.1 2.9 9.2	40.4 47.5 27.3	568.0 115.0 12.6	128.9 49.7	1,341 1,017 139
Spain	39.02	13.79	5.4	35.3	108.5	127.0	719
Turkey	57.3	8.15	15.9	14.3	47.8	165.1	198
United Kingdom	57.37	25.60	3.1	44.6	130.0	56.7	2,700

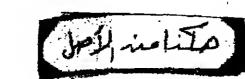
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Would not consider changing supplier

European business community on attitudes towards liberalisation, 7 per cent of senior decision-makers said that they were prepared to change telecommunications suppliers. The greater res change came from France (22 per cent) and Sweden (20 per cent). Italy is the most supportive of change - 94 per cent stated they would consider changing suppliers. The survey, on behalf of BT, was carried out this year by the Harris Research Centre.

■ IMPACT OF LIBERALISATION

A triumph for the EC's liberal conscience

OR EUROPE'S telecommunications industry, the red-letter day of the decade is January 1, 1998. That is the deadline agreed by the European Community for exposing existing volce telephony operators to competition in their home markets.

telecom services: the more competition, the faster, the

Europe's business community seems to take a simple view about

better, reports **Andrew Adonis**

From one perspective, agreement on the 1998 deadline was a triumph for the European Community's libaral conscience, championed in this instance by Britain, the Netherlands and the European Commission's own telecommunications directorate.

Mr Michel Carpentier, head of the directorate since 1983, is wont to remind visitors that is only two years since France, Spain and Italy were mounting legal challenges in the European Court of Justice to Commission's powers to liberalise the markets for telecoms equipment and specialised ser-

THE PROPERTY OF THE PARTY OF TH

In practice, however, telecoms competition is an idea whose time has come, and the question facing the EC ministers in June was when and how, not whether.

Indeed, the competition is already there. Although most of the EC's Public Telephona

Operators (PTOs) formally and other business arrangeretain their domestic fixed-line monopolies, the monopoly is being eroded by tha month.

Almost all EC countries now have competing cellular mobile services. Whereas the first genaration of analogue cellular services were mostly provided hy PTOs as monopolies, in most EC states licences for new digital services built to the pan-European GSM standard have been given to two operators, generally the PTO and one private consortium. the latter often including over-

seas companies. In Germany, three digital networks are coming on stream: Deutsche Telekom has only one, and that is now operated a free-standing subsidiary of the parent company.

The Commission has undertaken to publish, by January 1995, a paper on mobile and personal communications. However, the most important decisions have been taken, and liberalised European market is already in existence.

It is the same story in data services, where liberalisation is advancing by stealth. Even in the "voice" market; call-back

ments are eroding de facto monopolies.

They are also forcing PTOs to bring prices for long-distance and international calls down towards cost, so undermining - for PTOs and governments alike - the political and financial advantages of preserving the state telecoms monopoly.

straightforward as it might seem: 1998 is only one stage in the liberalisation process, and the EC's Juna 16 accord raised as many questions as it

The 1998 deadline applies only to eight countries; Spain, Ireland, Greece and Portugal, judged to have "less developed networks", have been granted an extra five years' grace. Separately, "very small networks" will bave two years extra "where justified."

Then there is the question of licensing new entrants. Post-Maastricht, an EC version of the Federal Communications Commission is out of the question; regulation will come from national agencies, with an initial steers and periodic prods thereafter from Brussels. There will nonetheless need to be coordination of policies on the licensing of new entrants, particularly the larger US operators whose ambitions send shivers down many the spines of many PTO directors. Are licences issued in one

country to be recognised automatically in others? If not, why not? These questions, bypotheti-

cal at the moment, will be only too pressing should the UK government grant AT&T a PTO licence in the next year. HE June 16 accord con-

tains but one sentence on the subject: "The opening of the Community telecommunications market for third countries should he linked to comparable access to such countries' markets."

Another critical, but unresolved, issue is that of infrastructure. The June accord envisages competition between operators over the public net-work. It deliberately sidestepped the vexed question of whether operators should be able to build new networks either to operate themselves,

or to lease out to others. The EC will publish a Green Paper on infrastructure by Jan-uary 1995. It will also look at the future of cable TV networks - which is integrally linked with infrastructure, since cable companies offering combined TV and telephony services is one way of securing competing fixed-wire telecom-

munications networks quickly. The infrastructure debate looks to be going the same way as the "voice" debate: by the time the EC decides a policy, liberalisation will be all but inevitable. The UK has already

The Netherlands government is considering a plan to licence its railways, cable companies and utilities to provide a national network to compete against Its PTO, which is to be privatised next year.

Finland - outside the EC, but a telecoms pace-setter has licensed a second national network, comprising existing regional operators.

There are already indications from Germany that infrastructure will be liberalised at the same time as voice services. If it makes an early announce-

ss cellular system across Europe: using a subscriber identity module (SIM card) this French cal

ment to that effect, the EC will ba no more than a rubber

However complex the negotiations and processes, Europe's business community seems to take a simple view: the more competition, the faster, the bet-

tives across Europe, carried out over the summer by the Harris Research Centre on behalf of BT, found 60 per cent saying that telecoms was the industry they most wanted to

Almost three-quarters would consider changing their supplier, while 79 per cent did not agree that doing so would be an "unnecessary risk" to their business. The greatest resistance to change came from French and Swedish executives, only a fifth of whom would consider changing oper-

By contrast, 94 per cent of Italians said they were ready to switch. And virtually everyone - including 85 per cent of the French - thought that liberalisation would improve the range of services on offer.

Telecommunications liberalisation France



To keep ahead in a changing world, both the business and scientific communities are recognizing the need for ever faster and more intelligent methods of information exchange.

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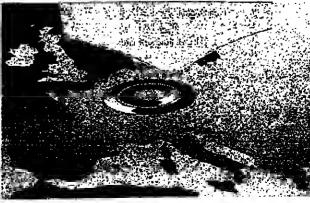
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■ GERMAN PRIVATISATION PLANS

Beset by political wrangles

Deutsche Telekom's ability to invest abroad is hampered by its strained financial situation, reports **Ariane Genillard** in Bonn

OR two years, German political partias bave heen haggling about Deutsche Telekom, the greatest plum in the slow-moving German privatisation process. So far, all that has emerged is a four-page document which

parliament this autumn. Inter-party agreement is essential, in order to secure the special parliamentary majority required to amend the German constitution, which defines telecoms as the responsibility

is expected to be submitted to

of the federal state. The opposition Social Demoerats (SPD) were not enamoured of the initial plan put forward by Chancellor Helmut Kohl's coalition: to win them over, the government has had to agree an awkward, vaguelyworded compromise,

The government's objectives are clear - and echo the pleas of Deutsche Telekom itself. First, the operator urgently needs private-sector funding to see through its heavy investment in eastern Germany.

Second, privatisation is essential to reduce the operator's public administration fat, to enable it to compete successfully in the liberalising European telecoms market.

Since reunification, Deutsche Telekom, which has a turnover of DM54hn, has been been charged by the government with upgrading the entire basic

telephone network for eastern Germany's 7.2m phone users. The company also plans to install 5m cables for television connections, lines for 400,000 faxes and 70,000 public telephones. In total, it has committed DM60hn worth of investments in the east by 1997. Its deht, which stands at DM100bn, is expected to rise to DM140bn hy 1995.

We need DM20hn to DM30hn of new equity if we want to continue out investments in the east," Mr Helmut Ricke. Deutsche Telekom's forceful chief executive, says hluntly. Mr Ricke, who has openly campaigned for privatisation for two years, stresses the restrictions imposed by the state of the German budget.

"When we go to the finance ministry for funds, they tell us they have the same problem."

Mr Ricke is further concerned that the company's ambitions to expand are limited by its public administration status which legally forces it to cover the deficits of the German post and postal bank. Last year, Deutsche Telekom had to hand over DML5hn to the two loss-making enterprises out of its annual DM6.45 annual profits. It is also forced by law to hand over 10 per cent of its revenues to the state

The company's sales rose by 14.3 per cent in 1992, due mostly to eastern Germany. However, it argues it should no longer have to transfer a fixed percentage out of its gross revenues, pointing to its declining profits which fell in 1992 by 10.4 per cent from DM7bn the previous year.

Its bands tied at home, Deutsche Telekom is worried about it ability to be a global telecoms player. The company has been anxiously watching the progress of its private competitors in Britain and the US.

"There is a simple formula," says Mr Ricke. "When the world changes in the right direction, and I believe private companies can offer better services to their clients, one must follow it.

But Deutsche Telekom's abillty to invest abroad is hampered by its strained financial situation in Germany, he adds. Referring to large joint-ventures between competitors, Mr Ricke says: "Even if we had wanted to do such a thing, we

Much depends on the attitude of hard-line Social Democrats

would not have the means to

As for the government, it is eager to remove the cost of rebuilding infrastructure in the east from the Treasury. And the proceeds from the pri-vatisation, which will be partly used to repay for the prior recapitalisation of the company, could help fill a few gaps in the finances of the federal government itself

However, the path to privati-sation is tortuous because of bjections volced by the Social Democrats, who are opposed to the establishment of a private company not subject to state control. Mr Peter Paterna, one of party's leading opponents of "classical" privatisation, argues that a private Deutsche Telekom will betray the muchvaunted German concept of the Burger Post - the idea of post and telecoms as a utility for all citizens. SPD opposition to pri-vatisation is strengthened by its close links with the 600,000 Post Trade Union, which embraces the telecoms industry. The union is fighting to preserve the employment status of its members, who as civil servants enjoy special rights such as life employment

While civil servants cannot by law be fired, a partly private Deutsche Telekom could implement incentive compensation schemes to discourage poorly performing employees.

Early retirement programmes for civil servants could also figure in the company's restructuring programme, which plans to eliminate up to 30,000 lobs in the next fews years from its current 230,000

Compelled to compromise with such demands, the government's four-page document proposes to turn Deutsche Telekom and the post bank into three separate joint stock companias, with a bolding company overseeing them.

In the case of Deutsche Telekom, the government will retain a 51 per cent stake until monopolies are removed in Europe. It is expected to reduce its stake to a minority share thereafter. The holding company will have "supervisory and co-ordinating" powers over the joint-stock companies. These powers could extent to "duties concerning the infrastructure," a response to the SPD's demand that remote regions are not treated less favourably than urban centres. Moreover, its specifies that wage agraements will he decided at the holding company level, thus allowing the trade union to retain greater wage bargaining power than if wages were decided in the

three separate enterprises.

These clauses have raised concern about the future ability of Deutsche Telekom to act unhindered from state control.

"I am not sure how a law could encompass all the contradictions in this document," complains Mr Frerich Görts, former state secretary at the post and telecoms ministry and charged with writing the bill this summer. "I cannot turn hlack into white".

But the government is determined to oversee the contradictions in the document and draft the bill. It is counting on that resistance within the SPD to privatisation is fading in the wake of the decision hy the European Community to pry open monopolies and liberalise coms in Europe by 1998.

For liberalisation has opened the prospect that Deutsche Telekom could lose out in the telecoms competitive battles. Already, Mannesmann, the German engineering group and Deutsche Telekom's newly-arrived competitor in the cellular mobile field, has gained a 50 per cent market share on a digital network installed last year

in the country. Much will depend the attitude of hard-line Social Democrats in parliament this winter. The retirement at the end of the year of Mr Emil Block, the vice president of the post trade union and flag-bearer of the hard-liners, could herald a further softening in the opposition's stance.

If the hill goes through quickly, the company is hoping for a first tranche of its shares to be floated by 1996. The issue could he worth DmI5bn. according to Mr Ricke and independent analysts. If parliament rejects the bill, such a move could be delayed by couple of years.



Optical fibre cables being taid by BT engineers near Ambleside, in the Lake District

UK POLICIES

Imitations abound

Britain is one of the world's foremost telecommunications 'laboratories,' reports **Andrew Adonis**

"HE UK's policies on competition and privatisation in telecommunications are being imitated worldwide, while the fate of new services - particularly the growing price war in the country's cellular mobile industry are of global significance.

It is nearly a decade since the privatisatinn of British Telecommunications and the licensing of Mercury Commnnications, a subsidiary of Cable & Wireless, as a national competitor. C&W, itself privatised only three years previously, was an established operator in the territories of the former British empire, bot had previously done little in the UK.

Competition got off to a limp start. Using railway lines for the most part, Mercury's network construction proceeded slowly. It made no early hid for the consumer market. Although it rapidly gained a sizeable business clientele more than half of the City of London's ontgoing traffic is now carried by Mercury - con-cerns aboot reliability and range of service restricted

growth. At bome, BT is still a Goliath. It carries around 90 per cent of the UK's telecoms traffic. With the third and final tranche of government shares in BT sold this summer, the only government check on its activities comes from Oftel, the UK's telecommunicatious regulator. Over the past decade Oftel has contained BT's prices but left it with fat profits, which it is now using to establish itself as a giant ahroad - most recently through a \$5.3hn deal giving it 20 per cent of MCI, the second largest US operator, and the lion's share of a joint venture set up by the two companies.

However, BT's home base may soon be under siege. Mercury is making a determined hid for the domestic market: as yet it has only 375,000 domestic subscribers (against BT's 20m-plus), but with improved access terms, and new packages enabling people to subscribe without purchasing a special phone, it is growing rapidly. And Mercury is not the only challenger. Two years ago the government ended the BT/Mercury duopoly established in 1984, and guaranteed for the medium term hy ministerial assurances given at BT's privatisation. Instead, the government announced its readiness to license new public operators. either huilding their own net-works or retailing services provided over existing net-

Furthermore, it allowed cable companies, with franchises in urban areas, to build combined TV and telephony networks - and to encourage them to do so. it banned BT from offering entertainment services over its existing network for at least ten years.

BT deeply resents the ban. and is planning a video-on-demand service to test its extent. But it appears to have had the desired effect: 27 companies, 20 of them North American. are currently huilding combined TV/telephone networks in 62 conurbations, with licences for another 65. They already have 185,000 customers between them, more than

BT still carries around 90 per cent of the UK's telecom traffic

treble the tally a year ago. As for public telecommunications liceoces, 22 have been granted in the past two years. Most of them are for providers of specialised or regional services, including several overseas companies. But two companies have licences to haild national networks: Energis, a snhsidiary of the National Grid, the company which operates the national network of high-voltage pylons, is erecton the pylons in barely two years; while Ionica, a private company, is building a radio

petwork. Faced with oew competition from all sides, BT's market share is bound to suffer. The key question is whether between them BT and the new operators can grow the market sufficiently to reduce BT's dominance while lucreasing its turnover and profits.

The same question is hanging over the UK's cellular mobile industry, where Vodafone, the world's largest independent cellular operator, and Cellnet, a joint venture between BT and Securicor, are facing pressure on prices for the first time since the launch of their networks in the 1980s. By developed world standards, the UK's take-up of cellular phones is unexceptional, with a take-up rate lower than

the US and Scandinavia but

higher than most of the EC.

Nor is the UK much of a tech-

nology testing ground: the GSM standard (adopted for

two of its new digital services) is pan-European, while the PCN standard (adopted for the other two) has also been adopted by Germany and tooks sets to extend elsewhere.

However, the competitive pressures emerging in the UK cellular industry, while still some way short of those in Hong Kong. are more than a match for most of the rest of the world.

Until this year, Vodafone and Cellnet carved up the market hetween them, making profits equal to more than 40 per cent of sales. The launch last month of Mercury One-2-One, the first of two licenses PCN networks, looks set to end that once and for all.

One-2-One astonished the ludustry by offering free local calls to domestic subscribers. in the evenings and at weekends, in a determined bid to sumer map for the first time. That came on top of a tariff structure which offered substantial discounts on Vodafone and Cellnet tariffs - albeit limlted by the fact that One-2-One's network currently covers only the London area.

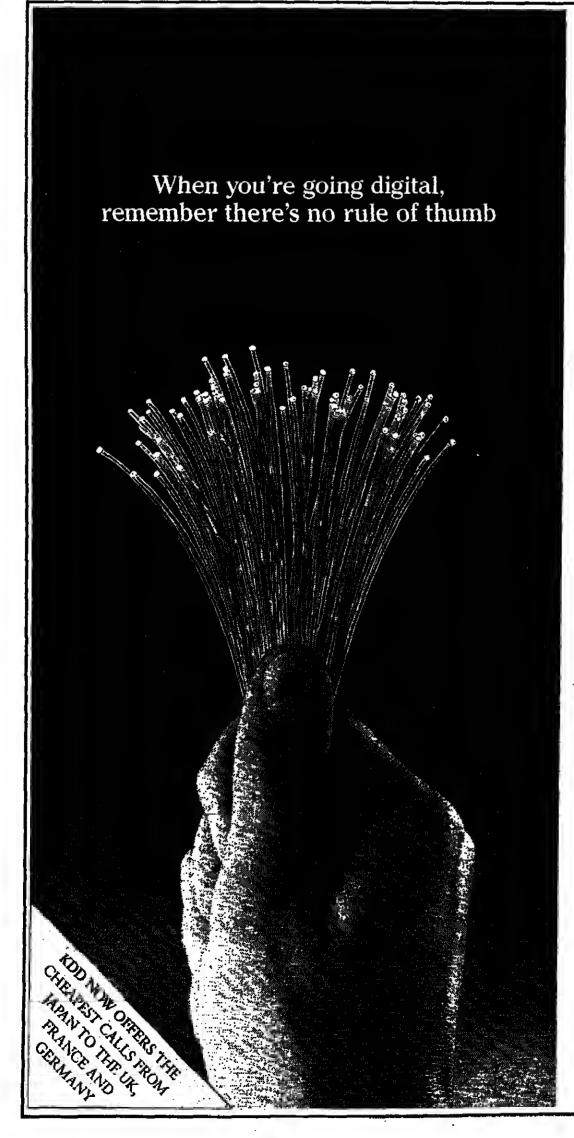
Despite the marketing hype, for the moment One-2-One will have only a modest appeal to domestic consumers because of the cost of handsets (at least £250) and mouthly subscriptions (between £12.50 and £20). But One-2-One has already forced Vodafone and Cellnet to reduce their peak-rate London tariffs by 40 per cent, and to cut low-user tariffs aimed at the domestic market.

With Hutchison set to ing an optical-fibre network launch another PCN service launch its digital service at the same time, competition, will soon be taken to a still higher plane. That plus the expected fall in digital handse prices, places the mass consumer market perhaps only two or three years away.

Given the intensity of competition, it could come sooner in the UK than in most of continental Europe. However, the cellular sector highlights a remarkable paradox in the UK's telecom industry. Its service sector is thriving, but its manufacturing base is non-ex-

All its suppliers are overseas companies. The wire-line sec tor is going the same way, with GPT now the only size able indiginous supplier - and GEC, its parent, has sold half of that to Siemens, with the other half generally expected to follow in due course.

The British disease - all services, no manufacturing – or a tragic missed opportunity? Rither way, the die is cast.



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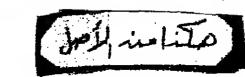
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Privatisation and liberalisation outside Europe

Rapid advances worldwide

In Latin America. telecoms privatisation is advancing at a speed that makes Europe's progress appear positively glacial, reports **Andrew Adonis**

EYOND Europe, privati-sation and liberalisation are advancing word-wide in the telecommunications industry. But they have many faces, and an array of contrasting approaches are to be found.

The US (covered in separate articles on page 8 of this survey) is a world unto itself, with its unique history of telecoms development and its distinctive regulatory structure.

Since many of the strategic partners and inward investors shaping the industry in other regions are US companies, par-ticularly the regional Bell operators, US practices are making themselves felt worldwide. This is particularly true of the US propensity to test regulatory barriers and licence conditions in the courts. But nowhere has it led to a private operator régime as complex or confrontational as in the US.

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Investors are targetting the dynamic regions of Latin America and the **Asia-Pacific countries**

Elsewhere, the most dynamic regions are Latin America and Asia-Pacific, with China looming on the horizon and likely to dominate investment priorities in the industry if its government proceeds with further telecoms liberalisation - see Asia reports on page 10 of this survey.

In Latin America, privatisation is advancing at a speed that makes Europe's progress appear positively glacial. Most of the region's leading operat-ing companies have been privatised, or soon will be.

In Europe, state budget deficits are a prime factor in privatisations. In Latin America, governments also want the

cash; but privatisation has also been treated as a prime vehicle for attracting strategic partners to take the lead in build-ing new lines and modsernising infrastructure as fast as

possible. In the last few years, Argentina, Mexico, Chile and Vene-zuela have all sold majority shares in their national telephone companies while Brazil, Uruguay, and Costa Rica have privetisation programmes in the offing.

In all cases, modernisation was - and is - a more important concern than competition; but pressure to liberalise is growing nonetheless.
Telmex, the inefficient Mexi-

can state operator, was priva-tised as a monopoly in 1991. According to Goldman Sachs, its licence binds it to achieving average annual line growth of 12 per cent until 1995, and six per cent a year from then to 2000. Barely 8 in 100 Mexicans haver e line at the moment. From 1997 Telmex will face competition in the long-distance market.

CTC, Chile's national opera-tor, has Telefónica, Spain's national operator, as e strategic partner with a 44 per cent stake. Line growth in Chile is expected to be a remarkable 23 per cent this year; long-distance traffic has grown by 25 per cent e year since 1988. By the end of this year, CTC will have an all-digital

In Argentina, two privatised operators, both with foreign partners, divide the country between them, Stakeholders in Telecom Argentina, which has the north of the country, include STET of Italy, France Cables and J P Morgan, the investment Bank; Telefónica de Argentina is 60 per cent owned by e consortium which includes Citicorp, the US bank, Banco Central and Telefónica of Spain.

Venezuela's national operator, CANTV, was sold last year, 72 of the \$1.89bn raised came from international companies participating in the con-sortium that bought a controlling interest in the company. Spain's Telefónica features yet

The telecom traffic base of the top 20 international carriers

Rank and Carrier	1992 outgoing _ MiTT in millions	1991 outgoing MITT in millions	Per cent growth, MITT 1991-92	Country
· ·				
1. AT&T	6984	6557	6.5	United States
2. DBP Telekom*	4087	3557	15.3	Germany
3. France Telecom	2449	2295	6.7	France
4. BT	2188	2105	3.9	United Kingdom
5. MCP	2083	1600	30.2	United States
6. Swiss PTT	1551	1429	8.5	Switzerland
7. Steritor*	1520	1425	6.7	Canada
8. Hong Kong Telecom	1137	913	24.5	Hong Kong
9. Netherlands PTT"	1134	1018	11.4	Netherlands
10. Iritei*	1116	980	13.9	Italy
11. Sprint*	940	723	30.0	United States
12. Belgacom	911	823	10.7	Belgium
13. KDD	900	850	5.9	Japan
14. Telefonica	804	719	11.8	Spain
15. Teleglobe*	722	647	11.6	Canada
16. Austrian PTT	713	642	11.1	Austria
17. Telia AB*	691	672	3.5	Sweden
18. Telmex	684	500	36.8	Mexico
19. Mercury	661	493	34.1	United Kingdom
20. Telstra	659	610	8.0	Australia

MITT is the minutes of telecoms traffic. Data are for public voice circuits only, rounded to the nearest million MITT. Indicates data for North American carriers include continental traffic. Stentor was formerly Telecom Canada; Stentor traffic is for US and Mexico only of which around 70 per cent was originated by Bell Canada. For Italy, Mitel (formenty ASST) nandles intra-continental traffic only. Italicable carries overseas traffic. For DBP Telekom, 1992 data oling traffic from the former East Germany. For Netherlands PTT, 1992 data is for financial rather than physical traffic. Telia AB was formerly Televerket.

Note: BT, KDD, Hong Kong Telecom and Mercury data are for the fiscal year (April 1992 to March 1993). Source: TeleGeography Inc., Washington, 1993.

raging over whether to abolish the state's constitutionallyguaranteed telecoms monopoly over telecoms operation, seen as an essential first step towards privatisation. Telebras, Brazil's state-owned tele-communications holding company, has become the leading light on the Sao Paulo stock exchange, thanks to foreign Investors anticipating opportu-

nities to come. Peru joins the privatisation league in December, when the country's two state operators are to be sold off. Peru has one of the worst networks in Latin American, with barely 2 lines per hundred people. If the sales In Brazil, a political debate is go as planned, the buyers will

be obliged to invest \$1bn to expand the network overthe next five years. The monopoly will be left intact for five years, on condition that the winning bidder doubles the number of lines in that period.

Unsurprisingly, Telefonica is an interested party in Peru, along with AT&T, GTE and South-Western Bell of the US, the UK's Cable and Wireless France Telecom, STET of Italy and Korea Telecom. They are likely to form bidding consortla with established equipment suppliers, such as Siemens, By contrast, Asia-Pacific offers a more varied picture, with countries positioned across a wide spectrum of development. However, in marked contrast to Latin America, the strategic investor model has to date found little favour anywhere in the region.

For the region's more developed countries, privatisation and liberalisation are primarily intended to give a greater impetus to developing already advanced networks.

Mr Andrew Harrington, telecoms analyst with Salomon Brothers in Hong Kong, expects telecoms companies with a total market capitalisation of \$70bn to be put up for sale in the region by the year 2000. Of that, around \$20bn will be available for investors.



In the Far East, priv

four companies you could buy: two in Japan, Hong Telecom, and Philipines," says Mr Har-rington. "Now there are in excess of 20, and the number will burgeon in the next

Singapore Telecom is the privatisation nearest on the horizon. The country already has one of the most sophisticated telephone networks in the world: it is looking to private investors largely to give it still greater dynamism and interna-tional clout. State operators in Korea, Australia, Thailand, Indonesia and India are all candidates to follow on - though in some cases (notably Australia), governments are publicly denying the prospect.

In the region's developed countries, liberalisation is proceeding fast. In Hong Kong. local services are to be liberalised from 1995. Japan, which permitted competition as long ago as 1986, now has three long distance carriers competing with NTT, two international carriers competing with KDD, and four new cellular opera-

In Australia, Optus, the competitor to state-owned Telstra, benefits from a favourable regulatory régime and is expected to have a 25 per cent market "In 1990, there were only share within five years. Even

tiny New Zealand, which three years ago its state carrier entire to e consortium led by Bell Atlantic and Ameritech of the US. now has one competing long-distance operator and two new cellular operators likely to

set up in the next year. For developing countries in the region, foreign investment is geared primarily to building new lines. In most cases, monopolies have heen preserved, with overseas inves encouraged to contract to build lines as a partner of the state operator, using "build, operate, transfer" (BOT) arrangements.

In developing countries, foreign investment is geared primarily to setting-up new lines

In a few cases, notably the Philippines, a liberal régime has been created for the job.

Thailand is the most significant BOT market, Japan's NTT has a stake in Thai Telephone and Telecom, a private company with a BOT contract to build im lines in the provinces. TelecomAsia, a consortium in which Nynex, the US operator, has a 15 per cent stake, is contracted to build 2m lines in the region.

"This could be the model for many future ventures." says Mr Arthur Troy of Nynex, TelecomAsia's chief operating officer. "For us, it's a novel form of operation, but seems to be working well.'

Indie is sharing in the novelty. This summer its government granted US West a \$100m contract to build a telephone network in a south indian town, in a move widely seen as the first nail in the coffin of the state's telecoms monopoly.

In the Philippines, four predominantly overseas consortia are constructing networks which they will own as well as operate. Between them they will install some 3m new lines - in a country which currently has only 900,000 lines. Three new cellular networks are also under construction.

The BOT model has obvious ettractions for other developing regions, notably Africa. Kenya, Nigeria and the Sudan are all considering telecoms privatisation programmes, under the tutelage of the World Bank, By they time they get there, state-owned national telecoms operators may be as old-fashioned as much of their telephone networks.

US developments: page 8. Asia-Pacific region: pege 10.



EASTERN EUROPE

Starting from scratch

The success of mobile communications supports the 'leapfrog' theory that eastern Europe can skip generations of development and leap to the latest technology, reports Nicholas Denton in Budapest

UDAPEST, circa 1990. The lead character of the film hears his wife has given birth, rushes to a callbox and telephones the hospital. Wrong number: cut to seductive girl at the other end of the line. Telephones erratic oues - are a staple of east European drama.

Not for much longer. Stateof the art French card phones, some with tone-dialling, are proliferating across Hungary's capital and taking the romance out of telecommunications.

Modernisation is long overdue. Communist regimes, suspiclous of free communication and keen on more tangihle economic output, bequeathed creakingly inadequate telephone systems to their democratic successors.

East European countries

average 10-20 lines per 100 inhabitants compared with about 40 in western Europe. Some exchanges date back to the 1930s. Visiting western engineers with a yen for telephone history heg for a glimpse of the Jozsefvaros rotary switch in Budapest.

Economic liberalisation has out the telephone systems of the region - never very sturdy - under even more strain. The foreign investors, private entrepreneurs and foreign traders of the new market economy are chatterboxes. The sheer volume of calls regularly overburdens telephone systems across the region. One day this spring, telephones crashed across parts of Prague and physical meetings came back

into their own. Each individual's inconvenience adds up to a heavy overall economic burden. A survey by the Organisation for Economic Co-operation and Development (OECD) of east European companies showed that substandard telecommunications was eastern Europe's most serious infrastructure obstacle to exports.

Rickety telephones have burdened, and deterred, foreign investors, too. General Electric



of the US hlamed part of the 1992 loss at its Tungsram lighting venture to the cost of establishing mlcrowave links to its plant in Nagykanizsa in

western Hungary. For all the grumbling about telephones - without which many a social occasion in the region would be incomplete development has begun.

Most countries in eastern Europe bave - or are con-structing - new international switches, which enjoy a very rapid payback. The region's telephone utilities are also installing new digital switches and fibre-optic cable to create an overlay network for husinesses, and to reduce the strain on existing analogue services. Business users prepared to pay a premium can now

acquire a line of international quality in Prague, Bndapest and several other cities. In this first phase, western

manufacturers like Siemens, LM Ericsson, Northern Telecom, Alcatel and AT&T have moved in to supply equipment. Some have been also been drawn into privatisations and joint ventures in order to win contracts.

Nowhere is the link clearer than in Poland. The authorities and their advisers Bain & Co parcelled up the telecommunications equipment sector into three parts for sale. Acquirers have preferential access to the Polish market and the policy has induced AT&T, Alcatel and just last month - Siemens to

Investment, and western

firms, have also focussed on mobile communications. Hungary's recent tender for two concessions to operate GSM digital mobile networks raised nearly \$100m in fees and prom-

ises another \$400m in spending

on network development over

10 years. US West, the regional Bell operating company, partnered national operator Matav to gain one of two concessions. Pannon GSM, a consortium teaming national operators from the Netherlands, Denmark, Sweden and Finland, took the second.

US West has been active elsewhere in the region, recently winning tenders to develop digital mobile networks in 10 Russian cities. The company also has stakes in



existing analogue mobile concessions in Hungary and the Czech and Slovak Republics. In Poland, Ameritech of the US. France Telecom and local partners have invested \$120m in their Centertel joint ven-

dinavian operators are embarking on wireless communications development in the Baltic republics. Further south in the former Soviet Union. Deutsche Telekom, Telecom Denmark and PTT Netherlands have combined to provide mobile phones in 21 Ukrainian cities.

ture. Meanwhile, various Scan-

Penetration by mobile services has been rapid with the longest established provider. Hungary's Westel joint venture, serving 33,000 subscribers after just three years. Average Telephone lines in eastern Europe Ukrain

usage is several times that in the west: many customers have no access to landlines and their mobile phone is their main means of communication.

Source: CIT Res

The relative success of mobile communications supports the "leapfrog" theory: that eastern Europe can skip generations of development and leap to the latest technology - "the only technical advantage which the Czech Republic has in telecommunications is that we have to rebuild the infrastructure almost from scratch," says Mr Mihal Cupa, head of the strategy section of national opera-tor SPT Telecom.

The main effort, nevertheless, centres on the more prosaic task of providing more landlines for a population which cannot afford high mohile phone charges. And that is an expensive proposi-

A report by the OECD calculates that \$129hn is need to bring average line density to 35 per 100 by the new millenium Some guesses put investment

needs are as high as \$320hn.

Much of the funding must inevitably he local. Tariffs have increased sharply in every east European country and the rise is likely to continue. Price capping regulation, in Hungary at least, is expected to allow increases in line with general inflation rather than following the West in subtracting a few percent-

age points from the RPI. International institutions. primarily the European Invest-ment Bank, tha European Bank for Reconstruction and Development and the World Bank, have also favoured the telecommunications sector for

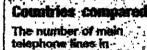
lending. But the indebtedness of local telecoms operators threatens to hecome unsustainably heavy. Investment, moreover, ls still proceeding far too slowly for east European countries to approach west European telecommunication standards by the year 2000. The shortfall, if it is to be narrowed, will have to be made up by foreign equity investment.

The first powerful infusion is set to occur with the privatisa-tion of more than 30 per cent of Matav. the Hungarian stateowned operator. The leading international telecoms operators bidding have until later this month to make their offers. Already Deutsche Telekom of Germany has formed a consortium with Cabla & Wire-less of the UK and Ameritech of tha US to emarge as the leading contender. France Telecom and US West may make a

rival hid, advisers believe.

Hungary's telecoms privatisation may be eastern Europe's first but it will hardly be its last. The Czech Republic has appointed JP Morgan, the Universiment bank, to advise the sale of a minority stake of . SPT Telecom, the national

operator, to outside investors. But privatisation in eastern Europe is complicated by legal and regulatory uncertainties telecoms privatisation more than most. With less than a month to go before the submission of hids for Hungary's tele-coms privatisation, it is still not clear how much the national operator will have to contend with local competition. Nor is title to real estate inherited from Hungary's former PTT clearly defined.



eastern Europe: 340,000 Estonia 7.100.000 Hungary Latvia 640,000 Lithuank 820.000 3,600,000 Poland Russia .8,000,000 For comparison: The UK26,000,000

200

No wonder, then, that estimates of the worth of Matav vary wildly. International Technology Consultants's valuation of \$2,500 per line gave the Hungarian operator a value of \$3.3bn. But the figure is just a starting point. ITC is the first, to say that the privatisation format is complex and the reg-ulatory framework fluid.

Source: CIT, 1991 figures: --

Whatever the purchase price, investors will have to raise several billion dollars for subsequent development of the network and it is this sum to which the Hungarian authorities are paying the closest attention,

Huugary has already attracted about \$5.6bn in foreign investment since reforms began in 1988. And Mr Gyorgy Schamschula. Hungary's telecoms minister, believes: "With Matav's privatisation we have the opportunity to attract as much foreign capital again

has come to Hungary so far."
As that investment, and the inflow into the region as a whole, gather pace, eastern Europe's unpredictable communist telephones will become a historical curiosity. Few will mourn - apart from film scriptwriters, that is.



Europe's rickety telephone systems have burdened



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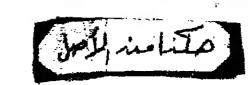
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■ OUTSOURCING

Race to supply new global services

The range of services provided by outsourcers is varied and growing. The staple diet includes managed data network services, electronic data interchange facilities, short-dialling options and electronic mail, explains Andrew Adonis

NE WORD dominates discourae on the growth of international telecoms operators: outsourc-

the growth potential of the market for outsourcing the telecommunications requirements of multinational companies and other large organisations is the single most cited rationale for the international ambitions of the leading telecoms operators.

There is little agreement on the size of the market. When AT&T launched its World-Source initiative in May, it talked of 4,000 to 5,000 'target multinationals'; a month later, at the inauguration of its \$5.3bn partnership with MCL BT was touting a more conservative 400 to 500. Either way, the numbers are large and the ambitions commensurate.

AT&T and BT are best placed to become the foremost global" outsourcers. Both have the cash to build and integrate global networks; both

Telecoms outsourcing Market size - top 2,000 European companies (\$m)

have significant footholds in large markets in their own right; and both have the wherewithal to attract the foreign partners necessary to meet the needs of most multi-

AT&T's international outsourcing venture, "World-Source," is an alliance with Japan's Kokusai Denshin Denwa and Singapore Telecom. Unitel of Canada, Telstra of Australia and Korea Telecom

are set to join soon. The alliance is already in the market for outsourcing contracts embracing the North American and Asia-Pacific regions. AT&T is now trawling for European partners with a view to a European launch next year. Suitors are not lack-

BT got off to a hesitant outsourcing start in the early 1990s with the launch of Syn-

cated across much of the world to the virtues of "hiving off" the management of all but core state responsibilities like the army and prisons (and sometimes even those), govern-ments are putting their own are looking seriously at foreign operators, not just their national PTO, to take on the

Meanwhile, the UK government has just tendered for its national long-distance network, linking government offices. Mercury Communica-tions, the Cable & Wireless subsidiary, won the contract. The runner-up was Telstra, the tor, which has a UK public telecoms operator licence and is working hard to build up its business outside Australia.

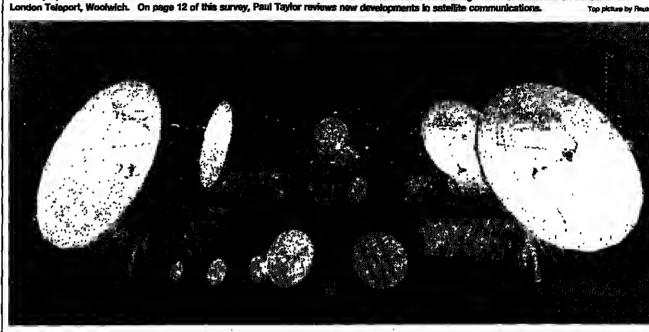
For Telstra, victory would have been particularly sweet, since BT recently won the con-tract to run the New South Wales government's contract in Australia.

Outsourcing is not a one-way unstoppable train. Last year Shell put its telecoms network out to tender, stipulating that the outsourcer would have to cut its communications costs It withdrew the tender, reportedly because all the bids came out more expensiva than Shell's in-house operation. It is

having another go this year. Meanwhile, the European Community has given a goldplated gift to the outsourcers, in the shape of its refusal to force member-states to open their public "voice" networks to competition before 1998.



allite tachnology plays a crucial role in today's fixed and mobile co Kennedy Space Center in Florida with a crew of seven on a satellite rescue mission. Pictured below is a night view of satellite dish serials at the



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ing - it typically includes managed data network services, electronic data interchange Fax 071 873 3062 facilities, short-dialling options and electronic mail.

service.

Most of the outsourcers are developing software tools to allow virtual private networks to interwork and to support a common set of features such as seven-digit dialling.

cordia, a US-based venture dedicated to the job. The need for

a stronger US base became

imperative, and it secured one

this year with its alliance with

MCI, the largest US

long-distance operator after

AT&T. The two will spend

around \$1bn establishing a

joint venture company, based

in Washington, to develop the

are in the market, too. The

most significant are Unisource.

an alliance of the Swiss, Swed

ish and Dutch PTTs; and

Eunetcom, a consortium of

France Telecom and Deutsche

carriers have outsourcing ven-

tures catering for domestic

companies, Cable and Wireless,

the UK group, has an interna-

tional network of its own, so

offers a far more than domestic

The range of services pro

vided by outsourcers is grow-

In addition, most national

Several regional groupings

global market.

Total or partial network management is widely on offer, with operators touting to take over complete ownership of

It is not just the familiar US multinationals that are in the market for global outsourcers. BT won a milestone £400m contract last month with Grupo Santander, Spain's fourth largest financial services group and parent of Banco San-

The contract gives BT ownership and management of Grupo Santander's data communications network covering 31 Spanish cities, which it will manage, upgrade and use to offer a range of managed data communications services to Spanish companies and other large customers.

Governments are also jumping on the bandwagon. Dedi-



Telia and partners build Hungary's first GSM network.

Once again, Budapest has emerged as a seething cultural and business centre at the very heart of Europe. In a major all-European joint venture, Telia teamed up with several other resourceful telecom companies to set up and operate the country's first digital mobile communications network. For Telia, the Swedish telecommunications company, it is familiar ground since Telia technicians are already actively involved in several similar projects around Europe.

To get the first GSM network in Hungary off the ground fast, the venture requires considerable skills and experience in mobile telephony, technically and businesswise. After more than 12 years of successful operation, both in Sweden and internationally, Telia is obviously more than qualified.

The first phase of the Hungarian project, which encompasses Budapest, several regional capitals and the Lake Balaton district, will be operational during the first half of 1994. Within three years, about three-quarters of the country will be covered.

In Sweden, Telia operates national NMT and GSM networks with a higher user penetration than in any other country. Outside Sweden, Telia is a co-owner of mobile telephony companies in Estonia, Latvia, Russia and Italy.

Telia is the international telecommunications company owned by the Swedish government. After 140 years at the forefront of telecom evolution, toe respond to the new challenges of free and global business enterprise. Together with PTT Telecom Netherlands and Swiss PTT Telecom, Telia is a co-owner of Unisource.

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DEVELOPMENTS IN THE US

Whirlwind of change



Digging up the streets: telephone engineers laying optic cables in New York city

The US telecom scene is in rapid transition with advances in technology, structural changes and intense competition between service providers, reports Martin Dickson in New York

■EN YEARS after the break-up of American Telephone & Telegraph in an anti-trust court settlement, the regulatory framework imposed then on the US telecommunications industry is rapidly breaking asunder as the country braces for the new world of multimedia, inter-ac-

tive communications. The sector is facing a period of extremely fast change, techuologically and structurally, which will produce both hig winners and losers.

Under the 1984 settlement, AT&T was divested of its local telephone husiness, which was divided up luto seven regional "Bahy Bell" operating companies, each enjoying a monopoly in Its own area. Because of their monopoly status, these businesses were prevented from entering the long-distance market, the manufacture of telecommunications equipment, and information ser-

The rump AT&T business was left with its long-distance and equipment manufacturing operations. However, the long-distance operations had to compete against unstart rivals like MCl Communications on a much more level playing field

Technological change is starting to render these dis-

tinctions anachronistic. In particular, the ability to translate video, andio and data information into digital form and then transmit it along fibre optic lines is hiurring the distinction hetween the telecoms, com-

puter and media husinesses. The higgest changes are taking place in the local telecommunications industry where the monopolies enjoyed by the Bahy Bells, as well as the patchwork of nou-Bell local telephone companies, are starting to come apart.

Several factors are at work here. One is the growth of so-called Competitive Access Providers (CAPs) - companies which establish themselves in metropolitan areas and operate highly efficient fibre optic networks, creaming off bulk traffic from husiness customers.

The Federal Communications Commission, the government agency which oversees the industry, has greatly increased the business potential of these firms hy giving them the right to inter-connect their networks with those of the local telephone companies.

Another is the inroads being made by long-distance companies, which resent the heavy access charges they have to pay local companies to complete the last few miles of call. Many states are now starting to allow long-distance carriers to compete in the lucrative market for intra-state medium distance calls, once monopolised by the local companies.

An important development here occurred in August when California, the largest telephone market in the nation. announced that it wanted to open up these short-haul toll calls to competition.

Thirdly, the rapid growth of cellular telephone communication is hreaking down the

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voice and data communications technology to

est cable operator in the US and a leading producer of filmed entertainment. The FCC has also helped the

phone companies move into this area by agreeing last year that they can provide " video dial tone" - that is, the transmission of television programmes over their own lines for third parties. But the phone companies still face a hig stum-hling block to full participation in the cable industry, since the 1984 cable act forbids them to provide cable programming in areas where they also provide a phone service.

Still, in a potentially important legal hreakthrough. Bell Atlantic, the phone company serving the mid-Atlantic region, won a court case in August which could pave the way for it to offer cable televisiou in its own area. A US dis-trict court in Alexandria, Virginia, declared the provisions of the 1984 act unconstitutional, since they violated Bell Atlantic's right to free speech under the first amendment to the US constitution.

The case seems set to go to appeal, but it is a clear indication of the way barriers are

The cahle companies, for their part, are keen to muscle into the local telecoms husiness. Many of the CAPs are owned hy cahle companies, some of which are also developing plans to enter a new type of radio-based telephony, per-sonal communications systems (PCS), which is expected to begin operating in the US over

the next two to three years. All this is putting hig pressures on the local telephone companies to improve their efficiency, through johs cuts and re-organisation of their working methods.

A recent example of the trend came in September. when US West announced plans to cut 9,000 jobs, or 15 per cent of its workforce, as part of a modernisation programme which will consolidate hundreds of local operating centres into 26 regional ones. It was, said the company, a "fundamental response to competition that is here, and is going to evolve through this decade."

Pacific Northwest, has recently followed that up hy making a \$2.5hn investment in the cable entertainment operations of Time Warner, the second larg-

new importance.

One current \$190m TV advertising pitch for AT&T has gained the embarrassing reputation for being "confusing". Even an AT&T executive admitted in print. "I still don't get it," referring of services that neglected to - even after seeing the commercials - what the services were.

since 1908 is just one more petty humiliation being inflicted by its upstart rival recently bought 20 per cent for \$4.3bu). MCI has taken cent, and Sprint's (the third long-distance player), 11 per cent. MCI led the way in offering a reverse-charges service using a toll-free 800 number, only to be followed

The journal Advertising Age estimates that AT&T spent in 1992, compared to MCTs theirs: the former hy almost by a successful campaign actress, hy \$17m. One problem in advertising

In the US, Frank Lipsius watches the jockeying to

gain consumers' attention

The market hots up

INGERLY referring to a relationship that goes back to 1908, the American Telephone and Telegraph Company insists that its advertising review is routine. But since AT&T lost its monopoly on American telephone lines and telephones, its campaigns have taken on

to the "i" plan - a broad range mention that the "i" stood for "individual." Few people knew

For AT&T, giving up the advertising agency it has used MCI (of which British Telecom about 16 per cent of the market compared to AT&T's 63 per hy AT&T.

AT&T has also lagged in touting services, such as discounts, to a customer's most frequently dialed numbers. Such jockeying for consumer attention does not come cheap.

\$329m on measured advertising \$103m and Sprint's \$87m. And while AT&T's advertising fell by \$24m from the year before, both MCI and Sprint increased \$10m and the latter, huttressed featuring Candice Bergen, the

long-distance services lies in differentiating the product. Resides sales gimmicks through selective discounts. the campaigns emphasise Madison Avenue inspired "qualities" such as being able to hear a pin drop on Sprint, or the negligible price difference between AT&T and MCI (negligible, so far as AT&T is concerned). For its part. MCI has run enormous electronic biliboards, keeping track of the savings that mount by the second in using

its services. These trivial squabbles mark only the beginning of the choices that will be bombarding consumers in the increasingly diversified and competitive telecom market. By the time this particular telecom revolution hits its

Many clever "must-have" communication products are in the pipeline to tempt US consumers

stride, customers will he seeing more than just a lower long-distance phone bill. After decades of being content with one or two telephones in the house, obsessive consumers can keep themselves permaneutly available by telephone, while companies can transmit information into a computer which that makes it available around the world

as it is heing typed. The humble house telephone is probably the first place most people are seeing these technological changes affecting their lives, Subscribers to New York Telephone are being offered services that give them more control over phone intrusions, "Call ID," at \$6,50 a month, shows the number of the caller as the telephone rings; "Call Return," by dialling three digits, calls back the last number on the line; and "Repeat Dialling", costing the same as Call Return at 75 cents, keeps on dialling until

an engaged number is free. For the technologically literate, the latest fashiou is for wireless systems that began with car phones and soon shrank in size, allowing pedestrians and restaurant patrons to have constant telephone companions. More than 12m Americans have signed on to cellular systems - a figure expected to double

Shadows over cellular's manifest destiny are the new band widths which the US government now intends to auction for a high-frequency digital channel devoted to PCS personal communication services.".PCS combines fax. telephone and modem, for personal and computer-to-

hy the end of the decade

The bidding for this space has created the only huoyant market in American property

computer contact.

- cellular band width. As Tom Wheeler, president of the Cellular Telecommunications Industry Association. contends: "It's the 21st century equivalent of the Oklahoma land rush."

MCI is betting on the new

PCS technology because its digital transmission solves the problems of the present generation of cellular service problems which cause 30 per cent of the customers to drop out every year because of quality, cost or poor service. To make the new short band width work, the PCS network may need transmitters every 500 to 1,000 feet. This would be a daunting investment; it

could ultimately cost three competing systems a collective \$22bn to install by the time of inauguration in about 1997. Capital outlays may discourage the faint at heart. hut the hrave can see that new technologies breed new uses. Thanks to Motorola, the

American cellular manufacturing pioneer, even China has 3m people on a paging system which transmits coded messages rather than giving a telephone number, using numbers to mean "return to office", "go to post office," and the like. Businesses in Philadelphia

have data entry done in South Dakota as if it were in the next room. In the highly competitive data-transmittal husiness that includes services from the hig long-distance carriers, as well as Cable and Wireless and CompuServe best known for its on-line information service – some American data out-sourcing goes to the Caribbean. CompuServe's network services division, with revenues approaching \$400m a year, does the online transmittal of Visa's 600m credit-card transactions and verifications, among its other

As the technological revolution progresses, it will sweep up even its early ally and progenitor, the humble bouse telephone. Already the new product called "pda", or "personal digital assistant", packages computer data and telephone service together.

The most advanced of these so far is AT&T's EO, which includes a cellular telephone with the services offered in common with its competitors Apple Newton MessagePad. Sharp Expert Pad and Casio Z-7000. All three have first-generation handwriting recognition.

At three times the \$700 cost of the competitors' simpler models, the EO 440 also sends and receives faxes.

Combining computer and telephone technologies creates an exciting future. There will be many "must-have" products among the huge range of possibilities opening to the most adventurous, imaginative and skilled telecom providers.

Telecom re-sellers make big gains, reports Geoffrey Wheelwright

Canadian companies cry foul

communications industry - and the established players in this market are not

monopoly, since it offers an

alternative to the local phone

company's wired network.

Admittedly, the regional Bell

companies are among the most

important players in the cellu-

lar market, since each of them

was granted one of two cellular

licences in their service areas

when these were handed out in

However, they do face com-

petition from independents which is likely to be even

stronger in the years ahead, following AT&T's launch in

August of a \$12.3hu agreed hid

for McCaw Cellular Communi-

cations, the largest cellular

This deal has the Baby Bells particularly concerned, for they fear it will eventually

enable AT&T to hy-pass their

lines, thus stripping them of

part of their huge access fees.

company in the US.

the early 1980s.

happy about it. Despite the presence of a conservative, deregulating government for the past 11 years, Canadian telephone companies bave enjoyed nearly a monopoly in the provision of domestic and business talephone services, almost from the very moment Alexander Graham Bell,

invented the telephone. But over the past three years that has started to change. In 1990 the government's telecoms regulatory body - the Canadian Radio and Television and Telecommunications Commission (CRTC) - allowed telecom resellers into the market. Two years later it approved the entry of independent competi-

tors.

The idea for the resellers was simple: they were to be allowed to huy long-distance telecom services in bulk from existing monopoly suppliers and then resell them competitively in much smaller units to business and residential cus-

The problem for Canada's existing telephone companies, bowever, was that long-distance services were their bread and hutter.

ONG-DISTANCE services have traditionally cost more in Canada than in the nearby US, largely because long-distance profits have had to subsidise the cost of local residential phone services.

The Canadian government has long kept a tight lid on the amounts that could be charged to consumers for such services. The average Canadian home-owner pays only about C\$15 (about US\$12.50) a month for their line rental, and can make as many local calls as they like once that line rental is paid. Realising that this might create problems, the government did force resellers

One of the reasons Canadian none companies are now crying foul is that the re-sellers need not contribute anything like as much of their profits to support local calling services as the established Canadian phone companies must.

represents AT&T's return.

after a 10 year absence, to the

local service market, and they

are redoubling a campaign

they have long waged to be allowed access to the long-distance market.

trying to improve their posi-

tion on other fronts. After

years of lohhying, they man-

aged in 1991 to get a relaxation

of the ban which prevented

them entering the information

This prepared the way for

Southwestern Bell, which

serves Texas and neighbouring

states, to make the telephone

in the cable television industry

last Fehruary, when it agreed to huy two cable systems in

suburban Washington DC for

US West, which serves the

industry's first hig investment

services industry.

They are complaining that it Rocky Mountain states and

They are also aggressively

For example, in British Columbia, Canada's westernmost province, the long-time monopoly supplier British Columbia Telephone (BC Tel, as it is known locally) must contribute, towards the cost of subsidising local calls, 20 cents out of the 35 cent per minute minimum charge on every inter-provincial long distance telephone call.

Competitive re-sellers such as Cable & Wireless Telecommnnications, the maltinational telecom glant, or Cam-Net Communications, the Canadian supplier, are only required hy government to contribute between two and three cents per minute.

These means that although BC Tel and the re-sellers are both making 15 cents per minnte ou inter-provincial tong-distance calls, BC Tel has to charge customers 35 cents per minute - while re-sellers can make the same profit by only charging as little as 17 cents per minnte.

BC Tel and other Canadian telephone companies say that this government-legislated encouragement to re-sellers is hitting them hard. BC Tel estimates that it is losing some C\$70m alone in long-distance business to resellers.

When the government unveiled its scheme to increase long-distance competition three years ago, it estimated that resellers would only capture about 2 per cent of the market. But by mid-1992, the re-sellers already claimed some 6 per cent market share - and now have about 10 per cent.

The area where Canadian border calls to the widely dere-

OMPETITION has come to put in a part of their profits gulated US. Using their leased to the Canadian teleto the Canadian teleto help subsidise local calling. bulk, Canadian telephone lines established phone companies, re-sellers can not only sell consumers a cheaper long- distance service within Canada, appeal the decision. but they can route calls to the They claimed that initially nearest US city across the bor-

> long-distance carriers. There are more than 40 long distance telephone service resellers in Canada. They are already claiming some 65 per cent of the Canada-US husiness long distance telephone traffic - representing a staggering growth from their entry into the market only three years ago.

> der - and then patch into the

US and international

But telecom resellers are no longer the only worry facing established Canadian telecommunications providers.

N 1992, the CRTC approved hids hy two Canadian companies to provide competitive long-distance telephone service throughout the coun-

The two companies. United Communications based in Toronto, and BCRL, based in British Columbia (a telecom division of the provinciallyowned BC Rail corporation), were granted the right to start offering competitive telecom

The value of the Canadian long distance telephone market is estimated at about C\$7.5bn a year. Canada's existing telecom service providers did not give up this monopoly without a fight, either.

As with the case of the resellers, Canadian phone com-panies argued that the new players do not have to subsidise the cost of local phone calls (which are still unlimited after a basic monthly line rate has been paid).

The CRTC has addressed this, however, by agreeing to a plan that will see the new competitors pay in up to C\$11bn to assist in paying the cost of local phone rate subsidies during the period in which the competition is

BC Tel and Bell Canada, tried unsuccessfully last year to

competitors are not being be required to pay as much toward subsidising local rates as they must - and that they have had to pay up to 70 per cent of the C\$50m cost of reengineering their telephone networks so that their new competitors can more easily book into them.

According to Mr Brian Caufield, president and chief execntive of BC Tel, Canadians ignore the regulatory prob-lems of their telephone companies at their peril. "The Canadian regulatory

environment for telecommunications has served our country's social policy needs very well in the past, creating a national telecommunications network that is truly accessible to all," be says. "In British Columbia, tele-

phone service is virtually universal - more than 98 per cent of our population is plugged to the (telephone) network. Unfortunately, the same regulatory mandate responsible for this accomplishment is becom-ing increasingly out of touch with reality."

Mr Canfield evinces strong Canadian nationalist sentiment in defence of his company's argument against the recent regulatory changes.

Current regulations leave Canada vulnerable to telecom providers "who are unencumbered hy our regulations and who act solely in their own uarrow, short-term interests, with little thought to what is best for Canada," he adds. Individually, none of Cana-

da's big telecom service providers is large enough, hy world standards.

In revenue-terms, "we are only half the size of British Telecom, only one-third the size of AT&T and only onequarter the size of Nippou Telephone and Telegraph," he

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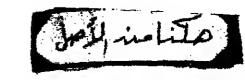
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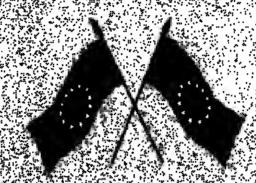
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Country	Phone lines per	Phone lines per	Une growth 1992-	Revenue in	CAG rate* since	Investment	Invest as %
	100 popn. 1991	100 popn, 1992	2000, in '000s **	1991, Sm	1982, per cent	In 1991	of revenue
Japan	45.4	59.2	20,000	49,107	2.1	17,844	36.3
	46.4	54.1	2,500	7,426	4.3	2,328	31.4
	33.7	48.4	8,000	6,119	10.3	3,249	53.1
India	0.7 0.7 45.9 44.2	2.1 2.3 64.9 58.2	15,000 20,000 1,500 500	2,898 2,671 2,364 1,486	10.1 7.1 2.7	1,584 1,617 283 385	58.4 60.6 12.0 25.9
Singapore	39.9	57.1	600	1,326	11.5	639	48.1
	0.7	2.1	3,000	1,320	11.4	792	60.0
	2.7	8.6	4,000	1,300	14.2	550	42.3
	9.9	29.1	5,000	1,092	9.7	504	46.1
Philippines	1.0	3.0	2,000	604	7.3	300	49.6
Pakistan	1.0	2.5	3,000	539	6.9	269	49.9
Sri Lenka	0.7	2.4	300	118	7.3	19	15.7
Total/average*			85,400	78.169	3.7*	30.364	39.9

□ Countries are ranked by 1991 revenues. *CAG rate indicates compound annual growth rate. **Forecast scom service revenues in this decade, according to a report by the international Source: FT Telecoms Market Newsletter. Telecommunications Union (ITU).

■ CHINA'S TELEPHONE TARGET

100 million lines by year 2000

The big growth area for foreign telecom exporters to China is public switching equipment, reports Lynne Curry in Beijing

N THE face of China's critical shortage of telephone lines and public switching equipment, foreign telecommunications manufacturers are engaged in an intense battle for market share to meet the

the world's fastest growing

phenomenal rates."

China has 17 million phone lines. It has already nearly reached its target for the country's five-year plan, which ends in 1995. China's official goal now is to have 100 million lines

operating by the year 2000. Nationwide, this means China has about 1.7 telephones for every 100 people. In contrast, the United States has about 60 telephones per 100 people. China's public pay phones

are scarce and the ntilisation rate is so heavy domestically that most telephones are busy ninety per cent of the time. In addition, getting through to the right number is difficult "the 'hit rate' is so bad that callers have to recall and redial

foreign telecommunication exporters is public switching equipment, which some industry sources say is a billion dolmarketplace in China.

and updating its telephone exchanges by installing "stored program computers" (SPCs) to replace the older electro-mechanical equipment to do the switching

by Siemens, and a company formed with Japan's NEC in But other multinationals were unhappy at being frozen out. Under pressure from the

Initially, China's State Coun-

cil allowed only three of these multinationals to form Sino-

foreign joint ventures to manu-

facture switching equipment.

These were Shanghai Bell.

which is an affiliate of Alcatel,

a Beljing-based joint venture

the lucrative switching mar-Northern Telecom recently concluded a \$159m deal to sell switching contracts to four

industry sources said the Chi-

nese Ministry of Posts and

Telecommunications recently

agreed to ease restrictions on

Chinese provinces and expects to begin producing switching equipment in Quangdong province in southern China by the end of the year or by early

Earlier this year, AT & T was also given permission to launch a joint venture in Qingdao to manufacture switching

In February, AT & T signed a far-reaching memorandum of undarstanding to jointly develop manufacturing plants and research and development projects in China's telecommo nications industry.

The competition has intensi-

fied in the last year as custom ers have sought to purchase equipment with more than just

switching capability.

Customers are looking for more and more high-tech prod-- and not just pure switching capacity," explains a western business executive.

The customer is concerned with quality, performance and the different functions of switching equipment." Industry sources report that

Japanese suppliers, such as NEC and others, have lost some market share to other foreign manufacturers in China in the last year. They report that the top three for eign companies are Alcatel with 31.2 per cent of the mar-ket, Ericsson 23.6 per cent, and Northern Telecom with 19.1

As the market leader, Alcatel is the most aggressive. Its joint venture with Shanghat Bell has more than trebled its design capacity of over 300,000 lines to produce more than two million lines last year. Alcatel also sold an additional two million lines direct to various

MPTs. Alcatel has also been able to obtain soft loans from various European governments for telecommunications purchases. Its Belgian subsidiary signed a \$250m loan with the Chinese in the spring. And the company's Spanish subsidiary agreed to an even larger \$500m deal for se of telecommunication switches.

Meanwhile, Ericsson has won a \$300m contract to install 18m lines in Guangdong over the next few years.

Demand is so great that Siemens has also doubled its original production capacity in its Beijing operation from one mil-

The demand for mobile telephones in China is unparalleled

lion lines to 1.5m this year and 2m next year. Last year the joint venture produced 370,000

Apart from switching equipment (or SPCs), another booming growth area is the cellular mobile phone market. "It's expanding so rapidly

that you can't compare it with anything else in the world," Bricsson and Motorola are

the leaders of this market. Both have manufacturing operations in China. Sieme has also recently announced it

is establishing a joint venture in Shanghai to produce radio handsets and transmission

equipment.
Though the cellular market is growing dramatically, indus. try sources say it is still relatively small for the country's

Subscribers are still less than 300,000, although line capacity is about a million. In comparison, Hong Kong, which has a population of 5.5m, has about 250,000 subscribers.

Mobile telephone subscriber costs are high in China. Subscriber fees are about 25,000 renminhi (US\$4,386), but demand is still great for this service, particularly in China's Pearl River Delta in Guangdong, and in the country's

rural hinterland. Cellular phones are more attractive to many business customers because a radio network can be installed more quickly than cables could ever be laid for a conventional tele-

phone system.

Other promising areas of growth include micro-wave equipment and optical fibre cables to link China's more remote areas.

Optical fibre systems are increasingly being used for long distance transmission in China because the quality of communications is said to be better than that of microway systems; and cable systems are ess subject to climatic interference. But microwaves still have some advantages over optical fibre systems. For particularly long distances, the equipment requires less time to installation time and causes less disruption in cities where roads would need to be dug up to lay cables.

Japan's telecommunications industry is still highly regulated, reports Michiyo Nakamoto in Tokyo

HIS summer, NTT, the world's second largest telecommunications company, said that fierce competition from competitors was forcing it to seek voluntary retirement among its employees in a hid to reduce staff numbers by 30,000 over the next several years. The move by NTT, which

shook a Japanese public long accustomed to stability in the labour market, revealed one of the more unfortunate effects of the growing trend in Japan to liberalise the telecommunications industry.

"It's a big, big market," comments a western business executive from a telecommunications multipational. "No matter how fast China's population grows, the demand for telephones is still increasing at

and recall," says a western

The country is modernising

The dominant equipment manufacturers in this market

are Alcatel, Ericsson, Northern American government and lob-Telecom, Slemens, NEC, bying by various companies,

Regulators keep tight control

JAPAN

ket forces, it was also dictated to a large extent by a Ministry of Posts and Telecommunications' decree that even in an increasingly competitive environment, the telecommunications operator will cut costs before it is allowed to raise prices where it has the ability

NTT's plight stems from a need to adjust its operations to a fast-changing environment. It will have to make further adjustments as the Japanese telecommunications industry, in common with those of other leading economies, undergoes a period of rapid transformation that is being triggered by

unications technology. Optical fibre technology, for example, is making it possible to offer more advanced and speedler forms of communica-

tions, such as video on

demand or video conferencing

But, while such technological progress forms the basis for change in the industry, it is the policy decisions made by public regulators striving to keep pace with the technology that determines the nature of the changes the industry will have to live with.

Despite a broad move towards deregulation in the country, regulation of the tele-

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BUILDING THE WORLD OF TELECOMMUNICATIONS

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Japan is still very tight, and there are few signs that the grip of the regulators is set to relax dramatically in the next few years.

Characteristically, the Japanese anthorities continue to take a paternalistic attitude towards the telecommunications industry, which they see primarily as a provider of a public service.

That view has shaped their approach not only to the liberalisation of the telecoms market but also to the introduction of the new services that are becoming possible with the rapid advances in fibre optics technology.

ity and speed will make telecommunications a key element of Japan's social infrastructure by making possible new services, such as improved teleconferencing, interactive TV and video on demand, says Mr Teisno Yamakawa, senior advisor in the communications policy burean of the policy division at the Ministry of

This, in turn, will help revitalise manufacturing industry, ease overcrowding in cities and improve the quality of life, he believes.

Posts and Telecommunica-

But at the same time, however, these changes throw up difficulties that are challenging the Japanese authorities ability to decide what policies are in the best public interest.

The spread of fibre optics, which allows broadcasting and telecommunications services to be provided on the same network, will erode the bound-

ary that separates the two While this may not normally

Technical advances are forcing a re-think on telecom regulations

be a problem for industries that operate strictly on market forces, it is posing a major dilemma for the Telecommunications Ministry which sees a fundamental difference in the aims of the two industries.

"The problem with putting broadcasting and telecommnnications on one network is that broadcasting is a service that is by its nature open, whereas telecommunications s private and closed," says Mr Yamakawa. "Is it a good idea to put these two industries

together?" he asks.
The other problem, Mr Yamakawa points out, is that the two industries are structured completely differently. The broadcasting industry only has to worry about making profits, whereas the telecommunications industry must concern itself with the seeds of the public. If the two businesses come together, which will take priority, prof-



Tough day for a Tokyo money dealer: Japan's telecor service suppliers have problems, too

its or the public?

Next spring, the ministry is beginning a pilot project to study the feasibility of integrating broadcasting and telecommunications services through optic fibre networks.

The pilot project, supported by telecommunications carri-era, broadcasters and equipment manufacturers from both Japan and overseas, will construct a model network including 300 end-user facilities in the Kansai Science City near Kyoto, Osaka and Nara, It will provide high definition TV. hilateral advanced cable TV, video on demand, videophor

vices on an experimental The ministry sees the pilot project as an experiment in policy rather than technology "we will be considering through the project, who should be the provider of the new integrated services," Mr

and video-conferencing ser-

Yamakawa says. The pilot project will go on for three years. In the mean-time, a government advisory committe which is deliberating on the issue, will present its proposal next March on how the infrastructure for the new telecommunications net-

work should be built. In parallel with these developments in their home market, Japan's telecom operators are cing the need to keep pace with developments on the international front to secure new sources of revenue but also to ensure that they do not get left behind in the race to

provide new telecommunications services. The separation of domestic nications husinesses under Japanese law makes this

extremely difficult. nmunications is a trans-national business, so separating the two sides is like putting a rope around your own neck," says Mr Kazuo da, senior vice president of

international affairs at NIT, But an easing of this rule of separation by the Ministry last May is providing possibilities Japan's telecommunications

perators did not have before. Although domestic carriers are not allowed to do trans-national business, they are now allowed to operate within the domestic market of a foreign

The relaxation of the rule is encouraging NTT, for example, to move into the mobile communications and mulitmedia

businesses outside Japan. Mr Asada is interested in the US to particular, since that country is a melting pot of new communications technology and services and would provide opportunities to test the company's hand at new services such as personal handy phoues which combine computer capabilities with mobile communications.

Mr Asada is looking for opportunities to tie up with a cable operator in the US or form a joint venture with a mobile phones business there. We want to do something

different from conventional phone business," he says. While Japan's technological tions has a high reputation internationally, the restrictions imposed by the country's regulatory regime has made it necessary for the Japanese industry to follow the lead of

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€.1

the US in providing new ser-The hopes in the industry are that the regulators will take a more forward-looking view in their decision over who should provide the next generation network.

AT&T controls McCaw for \$12.6bn, BT spends \$4.3bn to acquire 20% of MCI, Alcatel acquires STC Submarine Systems, US West joins Time Warner Entertainment, the Greek (OTE) and Hungarian (Matav) telephone networks open up to large operators...

France Télécom and Deutsche Telekom announce a change in status...



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FINANCIAL TIMES CONFERENCES WORLD

Mr James H Quello Federal Communications



MULTIMEDIA

A new breed of communications

The convergence of media, communications and computer technologies promises to create a revolution in communications which will be as profound as the building of the railways in the last century, reports Philip Manchester

HE telecommunications industry is likely to be the first to feel the full impact of multimedia - technology that combines communications with animated, highresolution computer graphics and video, hi-fi sound, combetween the system and the

Now, a new breed of commuvideo-conferencing and desktop digital video possible. Integrated Services Digital

Networks (ISDN), which can carry all forms of multimedia data, are now widely available, high-speed local area networks which can handle the large data volumes are becoming available and terminal equipment is falling in price.

At the same time, telecom-munications suppliers are adopting international stan-

networks, but in the Far Resi

lic network. These differences,

says Alan Davis, affect the

way in which companies com-municate globally and require

network suppliers to have an

in-depth grasp of networking

Consultants Tonche Ross,

the accountancy firm, in

another report on the business

impact of "wire-less" commu-

communications deliver real

benefits, but have yet to be

fully persuaded that the

Touche Ross believes that

"substantial growth will come over the next five years,

to reap the full benefits of the

The race to supply new global

The development of wireless computer technology, as used

in today's cellular telephones,

personal communications

systems or mobile radio systems, will create a new

area of business and market-

ing potential, according to CSC Index, the international

The forecast lists several

areas of opportunity: first, is

transactions - wireless tech-

nology will anable sales and sarvice transactions to be

made as close to the customer as possible, unlike most cur-

rent transactions which have to take place at a fixed point

next to a computer - for exam-

ple, at the cash register, reser-

This 'untethered' communi-cations facility is already

being tested by an interna-

tional airline in a roving check-in service for passengers

as thay enter air terminals.

Their travel information is

then entered ioto a hand-held computer connected to the check-in system over a radio

Other areas for development singled out by CSC Index - a subsidiary of Computer Sci-

ences Corporation - are the tracking and deployment of items in a supply chain, where trucks can tracked and goods

'tell you' where they are; also in 'turbo-charging' business

organisation - speeding the administrative reactions to

customers, suppliers or

employees by providing on-

the spot response and accelera-tion of planning processes.

that by the year 2000 as much as half of all voice and data

communications traffic could

be via wireless computer tech-

Satellite link for auto

Dana Distribution UK, an

automotive after-market com-

which all its 115 locations will

This network links Dana's

Swindon beadquarters, its

main UK distribution centre in Miltou Keynes and 113

branches, and will carry all sales and inventory details on more than 40,000 product

£4m investment in

Securicor Cellular Services is investing £4m to improve

customer service. Research by

SCS, the cellular service provider of the Securicor group,

shows that while more than 85

per cent of customers are "rea-

sonably satisfied" with service

they receive, the company

aims "to create differentiation

through service delivery, rais-

ing customer expectations,

Michael Wiltshire

industry-wide."

cellular services

parts distributor

minal) network.

lines.

The consultants forecast

vation desk or office.

network.

management consultancy.

services: see page 7.

New business opportunities

investment is justified."

across countries.

almost all traffic is on the pub-

NEWS IN BRIEF

Video links 14 cities in China

nications, say that "companies know about that wire-less GPT Video Systems of Maidenhead is supplying what is claimed to be the first videoconfarencing network in China. Fourteen cities will be video-linked in Hunan Prov-

"The problem facing Chinese officials is the fast distances they have to cover to attend a face-to-face meetings," says Mr Tom Doyle, director of video and ISDN systems at GPT. The Chinese network could also be linked with international, interactive video meetings with western industrial companies, he says.

Satellite applications in Asia

Research in south-east Asia has revealed the need for a new hardware-orientated exhibition for cable and satellite technologies, says Reed Exhibition Companies of London.

"Cable & Satellite. '94". focusing on the operational needs of business, will be held at the Hong Kodg Exhibition the 'migration' of business Centre from November 30 to December 2, next year.

Telecom revenues up 11 per cent

Western European revenues from the provision of telecommunications totalled Ecu 102.1 (equal to \$119bu or £79bn) last year - up 11 per cent on 1991, according to a new report from the Loudou-based CIT Research group. But between 1992 and 2002, CFT expects an annual average growth rate of 5.6 per cent a year in real

Despite the big strides in telecoms network technology and services over the last 20 years, public switched telephony networks (PSTNs) are still the mainstay of European telecommunications. In 1992, says CIT, Ecu 83.3bn worth of phone bills were paid across western Europe - a sum equivaleut to \$97bn or £64bn. About 25 per cent of PSTN charges were for access (connection and line rental) and 75

Trend towards global networks

per cent for calls.

British business is on the verge of massive worldwide uetworking investment," according to new research among 100 leading UK organi-

The report, by analysts at Booz Allen & Hamilton, found that 55 per cent of companies have international networking requirements, with the major-ity (67 per cent) wishing to pany, has signed a contract with Hugbes-Maxat under link territories globally, rather than just within Europe (27 per cent), followed by the US (18 per cent) and the Far East (13 per cent). be provided with a two-way VSAT (very small aperture ter-

Alan Davis, managing director of Ascom Timapiax, a leader in the total networking solutions sector - and publisher of the report - says that the sharing of business information "is not just from desk to desk or from office to office, but rather from country to country. UK companies realise that linking globally is a means of gaining competitive advantage in a worldwide

Research by Booz Allen & Hamilton on networking market trends, established four critical factors: changes in voice management, computing, carrier strategies and user competencies – all of which impact the development of networking in Europe, the US and Japan in different ways.

In the US, for example, most of the users in the survey had shifted a large portion of their voice traffic to virtual private

puter data and - most impor-tant of all - interaction

nications services, which have the power and capacity to carry video images alongside traditional audio, have made

> \$1.6bn by 1997.
> "All the technology building blocks are in place - we just need to find a way to integrate

Mr L'Eglise believes that the desktop computer is most likely candidate as the primary platform for multimedia termi-

Although telecommunications suppliers - such as British Telecom in the UK - have introduced stand-alone videophone eystems, it seems unlikely that people are going to want yet another TV screen ou their desks. driven by the development of applications that enable users

dards which will make it feasible to introduce full multimedia communications in the next few years.

These developments in the telecommunications infrastructure will open the door to many new exciting applications - particularly those that involve remote co-operative working. Current electronic mail and workgroup applications, for example, will receive a boost from full multimedia communications and allow people to work together in new

The market research group, Ovum, forecasts significant growth for multimedia communications in the next five years. From a base of zero in 1991, Ovum estimates that revenues from multimedia communications software in the US and Europe will be over

them so they work together seamlessly," says Mr Claude L'Eglise, video brand director at Intel

nals

If they are to have video,

they want it integrated into their desktop computer. Intel is working with a number of partners to take the next step and make it possible to deliver multimedia communications to the desktop.

In addition to its work at the microprocessor level with the Indeo technology to speed up digital video processing, Intel is working with Microsoft to develop away to control telephone systems digitally. Intel is also working with

Siemens Nixdorf and Ericsson to develop deliverable multimedia services across networks. But the cost of terminal equipment is key - "the price of a multimedia-equipped PC must be low enough to attract the market and it must be easy to install and use. We are get-

"Multimedia gives us different ways to tackle old problems"

ting nearer to this everyday, Mr L'Eglise explains. The PC and the Macintosh are powerful enough to act as terminal devices and the public networks are fast enough to

carry the signals," he says. Mr L'Eglise sees a big mar-ket for multimedia telecommunications - especially for remote and co-operative working - "people want to exchange documents and work on them together. We see multimedia communications offering the ability to do this over a network," he says.

Some users may be closer to multimedia communications than they know. For example, users of the 2100 Premier telephone service, supplied by UK telecommunications company Mercury, only require minor hardware additions to plug their PCs into the network

Most of our customers do not realise yet that they can use multimedia communications by plugging their PCs into our network through an IST TeaturePhone.' We hope to raise awareness of this service this year," says Mr Robert Ralphs, application manager at

Mercury. "Terminal equipment is coming down to a price which peo-ple can afford and they already use electronic mail systems. It is not too much to expect that they will take the next etep and move to multimedia, explains Mr Ralphs.

The first products to exploit the new communications infrastructure have already begun to emerge. Northern Telecom, for example, announced its 'Visit' system and demonstrated it at the Multimedia Show at London's Earls Court,

earlier this year. Olivetti has been working for some time on digital video on the desktop at its research laboratories in Cambridge, The Pandora project - which brought multimedia communications to desktop workstations a couple of years ago -has produced what Olivetti calls the Personal Comm tion Computer (PCC).



BT's desk-top video-conferencing units are dedicated, visual tools which can have added document and autiliary cameras. They allow small groups of people to meet and send pictures and videos.

The PCC, which is based on a standard Windows PC, not only brings video communica-tions to the desktop – it also enables two users to work on the same information over an

ISDN link. Pilot systems are already being tested in the UK and in

Italy. Olivetti has used similar technology to create a multi-media banking "kiosk" which lets customers access their accounts and call up a human financial "counsellor" who appears in a digital video window in the corner of the screen to give advice.

Both the customer and the adviser can look at the same account data simultaneously. Pilot systems are installed at three branches of the San Paulo Institute, one of Italy's largest retail banks.

Mr Mark Churchward, a divisional manager at Olivetti UK, sees these systems as only the

beginning of what can be done with multimedia communications.

"We see multimedia as a technology - not a market. So we are coming with new ideas ed on what our customers

are telling us.
"Multimedia gives us different ways to tackle old problems," he says.

One key area of development is in remote diagnosis. Multi-media uetworks provide experts with the ability to examine problems in detail without being present at the site of the problem.
This applies as much to, say,

a medical problem where a surgeon can monitor an operation remotely, as it does to techni-cal problem with an aircraft where an engineer diagnose a fault remotely.

Mr Churchward uotes, for example, that the paper documentation for a Boeing 747 jumbo jet weighs more than

the aircraft. He says that Boeing is working on ways not only to record documentation alectronically, but also to structure in such a way that data can be accessed remotely and used for diagnosing prob-

Similarly, the "Superjanat" network which links research institutions across the UK, provides multimedia communica tions for researchers and medical practitiouers to work

remotely. In both cases the need is for a rich level of communications which can only be provided by full multimedia technology. The convergence of media, communications and computer technologies promises to create a revolution in communications which will be as profound as the building of the railways in the last century.

Businesses which recognise this early will be the leaders of the next century.



THE WORLD GETS SMALLER

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mation in the hands of people who need it, when and where they need it. It makes for fierce competition. The growing challenge is to epply telecommunications technology to create real business advantage. Better and faster. Singapore Telecom hes established a reputation with more than 3,000 multi-national customers to do just that. Providing value-added services from private networks to

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■ SATELLITE TECHNOLOGY

More vital than ever

By the turn of the century, satellite technology may well have plugged the last gap in providing a truly global mobile telecommunications system, writes

Paul Taylor

ATELLITES already play a crucial role in fixed and mobile telecommunications. They provide voice, data and video links across continents and oceans, maritime and aeronautical communications where landhased systems are not an option and global positioning and tracking services for military and other customers.

Increasingly, they are being used in the US and elsewhere to provide two-way Vsat (Very small aperture terminal) satellite telecommunications services to businesses - a market which in the UK alone is expected to grow to hetween £20m and £30m within the next five years.

They are also used to provide telecommunications facilities to geologists, journalists and others in remote or inhosoltable regions of the world using terminals, such as those supplied by Inmarsat, the Londonbased 69-member International Maritime Satellite Organisation. Inmarsat, which uses four operational satellites, already has 25,000 customers, most of them in its traditional market of ship-to-shore communica-

These services are mostly based on geo-stationary satellites (Geos) which orbit the earth at a height of between 12,000 and 25,000 miles. But soon, if plans go to schedule, a new type of satellite system based on low earth orbit (Leo) satellites will help deliver the first truly global handheld mohile telephone service capable of providing voice and data telecommunications literally "any where on earth."

Among the handful of Leo-based telecommunications system proposals which have been unveiled in the last few years hy international consortia, the \$3.4bn Iridium project, conceived by Motorola, the USbased electronics group, is probably the most amhitious and advanced.

The Iridium project will be based on a 66 Leo satellites ringing the earth at a helght of just under 500 miles with each satellite in sight of several others at all times. Thus a message to or from a handheld mobile telephone operating on the Iridium network could be transferred between satellites before being heamed down to

its destination anywhere on some satellite voice links.

Two months ago Motorola announced that after several years of funding all the research itself, it had raised \$800m from an international consortium, including Bell Canada, Raytheon, Sprint, Sony and Mitsubishi as the first stage towards financing the Iridium project.

As prime contractor for the project, Motorola will be responsible for designing and building the entire Iridium network and has a \$2.8bn contract to maintain and operate the system for five years after it is launched in 1998. By that stage. Motorola's stake in the project will have fallen from 34 per cent to 15 per cent as new investors join.

gives Irldium a clear lead in the race to huild a satellitebased mohile telephone system based on Leo technology. Leos are designed to orbit at between 450 to 6,000 miles; and because they are closer to earth than geo-stationary satel-

lites, telecommunications

systems huilt around Leos

The financing agreement

characteristic echo heard on

They will also work with much less powerful - and therefore smaller lighter and cheaper - telecommunications equipment including pocket-sized handsets.

But there are disadvantages. Like Geos, they are solar powered hut because they orbit lower they will spend more time in shadow and therefore have a shorter life span, perhaps five years instead of 10 or more for conventional satel-

However, their higgest - and

costliest - disadvantage is that to provide reliable global coverage many more Leos are needed than would be the case with their higher-flying counterparts. This also means a large num-

ber of launches, and an extended roll-out time. For example, Iridium plans to place its 'constellation' of satellites in orbit over two years starting in 1996 and will use a combination of McDonnell Douglas Delta rockets from the US, the Proton rocket from Russia and

should suffer less from the China's Long March launch nation satellite services - ser-

Another five consortia, mainly comprising US and European space and telecommunications companies, have proposed similar schemes although none are quite so ambitious as Iridium and most of them still have to win solid financial backing.

Most of the groups plan to start commercial operations between 1996 and the end of the decade. Several other groups have plans for Leo systems which would provide data rather than voice services.

OTOROLA'S success in securing the backing for Iridium is backing for Iridium is likely to trigger a race between the other Leo contenders, not only because there are limits to the world's satellite launching capacity, but also because most analysts believe the market can probably support only two competitors.

To supplement revenues from voice traffic Leo systems will also carry fax messages paging, facsimile, computer data and provide radio-determimobile telephone service designated Project 21 which has been viewed by many as the main rival for Motorola's Iridium project.

Originally, Inmarsat had planned to base Project 21 on a \$2bn Leo network. However, in a surprise decision at the end of July, the Leo plan was abandoned in favour of a network using fewer satellites placed in higher geostationary or intermediate orbits.

vices which locate radio trans-

mitters by latitude and longi-

tude. They could also provide

voice and data links for the

next generation of personal

digital assistants which will

hegin appearing later this

iridium hopes to have 2m

customers four years after the

network becomes operational.

Each customer will have to

huy either an Iridium handset

or a dual purpose handset

which will work with both Irid-

ium and the huver's own local

mobile telephone network.

Calls will cost about \$3 a min-

ute and the handsets are likely

whether Leos make economic

sense as a mass market voice

telecom delivery system in competition with much

cheaper terrestrial-based net-

works, especially since it

seems probable that there will

service providers like BT and

Infonet. The market is now

expanding quickly in Europe

where most PTTs, together

with AT&T Istel and a handful

of data specialists, have either launched, or have plans to

Ovum believes that In

sites with more than 100

Europe 40 per cent of commer-

employees will be using frame

relay within five years of a

national service heing intro-

EDI enables two organisa-

tions, usually customer and

supplier, to exchange routine

husiness documentation such

as orders and invoices using

standard electronic forms and

their own computers linked

through a service provider.

Electronic data

interchange (EDI)

launch, frame relay services.

Some analysts question

to cost about \$1,700.

system networks.

The decision to opt for a conventional system was taken after Inmarsat commissioned reports on the options and should enable the organisation to reduce its investment to about \$1hn. Whether or not the decision will benefit Iridium and the other Leo groups is debatable.

On the one hand, it means Inmarsat has given up the advantages of Leo systems and could have implications for the type of service that it can offer and this could make it easier for lridium and others to secure investor support for their Leo systems. On the other hand, it highlights the technical complexities of Leo systems and may enable Immarsat to provide a cheaper

For Iridium these issues are he an oversupply of satellite likely to come to the fore when Aside from the other Leo satthe initial funding runs out and it seeks another tranche of ellite consortia. Inmarsat also has plans to huild its own setalmost equal size within two years. The remaining 60 per ellite-based global hand-held

cent of the project cost is expected to come from the debt

market. International investors will also want to be reassured that a number of other difficult issues have been resolved. Among these is the issue of frequency allocation. The World Administrative Radio Conference agreed in principle last year on which frequencies to allocate to Leos, but since then, the various consortia have been unable to agree how this allocation should be

divided up. The dispute has arisen because Iridium, unlike all its other rivals, plans to use time division multiple access (TDMA) technology - which does not permit frequency

sharing. In contrast, all the other proposed systems would use code division multiple access or spread spectrum technology which can share a block of fre-

The dispute has already delayed the timetable for licensing global mobile satellite systems in the US and will probably require a US Federal Communications Commission ruling on the issue.

The other main unresolved problem is about who should regulate global mobile satellite system operators - an issue which is exercising the European Commission and other would be regulators.

Telecom service providers across the world are scrambling to deliver more value-added network services (Vans) to their corporate customers in a bid to win new business, reports Paul Taylor

HE liberalisation of telecommunications in the US - and now Europe has led to greater competition between established network operators, new entrants and specialised niche market players. At the same time, technological advances, particularly the shift to digital systems. have provided service operators with fresh opportunities. The result is a proliferation of value-added services aimed at corporate customers.

For example, the digitalisa-

tion of BT's UK network has enabled the former PTT to offer a bundle of 'Star Services' call-forwarding, call-waiting, caller identification and other special facilities which until recently have only been available of large companies' internal private branch exchanges

Similarly, the introduction of competing GSM (Groupe Systeme Mohile) digital cellular networks across Europe will give network operators an opportunity to exploit a whole new range of features like GSM's short message facility which allows handsets fitted with liquid crystal screens to receive 160-character message twice as long as the typical alphanumeric radio-pager.

Mr Martin O'Byrne, managing director of Sema Group's telecom division which worked with Vodafone in the UK to develop the facility, helieves that SMS and other features like it will provide network operators with an important way of differentiating their VALUE-ADDED NETWORK SERVICES

Innovation on all fronts

European market forecasts: value-added networks (Ecu millions)

1991	1992	1993	1994	1995	1996	CAG
135	200	258	330	402	490	299
111	133	168	229	344	518	369
6	15	31	64	136	290	1179
0	24	179	402	676	933	1499
3,100	3,668	4,337	5,133	6,079	7,372	199
176	218	278	365	491	671	319
116	246	463	610	724	819	489
409	470	547	631	719	811	159
4,053	4,972	6,261	7,764	9,571	11,902	24%
	135 111 6 0 3,100 176 116 409	135 200 111 133 6 15 0 24 3,100 3,668 176 218 116 246 409 470	135 200 258 111 133 168 6 15 31 0 24 179 3,100 3,666 4,337 176 218 278 116 246 463 409 470 547	135 200 258 330 111 133 168 229 6 15 31 64 0 24 179 402 3,100 3,668 4,337 5,133 176 218 278 365 116 246 463 610 409 470 547 631	135 200 258 330 402 111 133 188 229 344 6 15 31 64 136 0 24 179 402 576 3,100 3,668 4,337 5,133 6,079 176 218 278 365 491 116 246 463 610 724 409 470 547 631 719	135 200 258 330 402 490 111 133 168 229 344 518 6 15 31 64 136 290 0 24 179 402 676 933 3,100 3,668 4,337 5,133 6,079 7,372 176 218 278 365 491 671 116 246 463 610 724 819 409 470 547 631 719 811

GSM networks. Value-added services are already an important and rapidly growing source of revenues for the telecommunications industry. The US

Commerce Department estimated that providers of value-added services including electronic data Interchange (EDI), electronic mail, enhanced facsimile and man-

ally oriented managed network aged network services in the US will earn around \$8bn this

Across the Atlantic, Ovum, the technology consultancy, prodoces a continuous information service called "Vans Market Europe," which forecasts that the European market will almost treble in value from Ecu 4.06bn in 1991 to Ecu

Ovum says France is the biggest Vans market in Europe although its share of the total is declining as other markets (such as Germany) expand. France Telcom ranks as Europe's Vans market leader with an estimated 20 per cent of the market followed hy Deutsche Bundespost Telekom (13 per cent), Telephonica (10 per cent). Reuters (7.5 per cent), BT (4.1 per cent) and IBM (3.7 per cent).

Data network services

Packet-switched and other data services were among the first true value-added services offered first in the US and sub-

sequently in Europe. The three most common data network services are telecommunications companies' public X.25 network, other vendors managed data network ser-vices and the hig US and pan-European special purpose networks operated by companies like Reuters or consortia such as Swift

Traditional X.25 packet-switched data networks pro-vide a simple means for exchanging data between sites, hut high prices and uncertainty aboot whether X.25 can meet current and future requirements for high bandwidth services like video-conferencing have led to the development of alternatives known as fast-packet switching ser-

These include a fast packet technology called Asynchro-nous Transfer Mode (ATM) and frame relay, a slimmed-down version of X25 which is faster, simpler and cheaper than X.25 and provides an ideal interconnection service for

local area networks (Lans). In the United States, Frost and Sullivan, the market consultancy, has estimated that the market for fast packet switching services will rise from \$74m in 1992 to \$2bn by

Frame relay

Ovum expects frame relay to account for eight per cent of the European Vans market hy 1996 - astonishing growth given that two years ago it was little more than another high-tech concept which emerged out of ISDN standardisation work.

Vendors in the US, where It is already well established. include the long distance carriers, local exchange carriers, local data specialists like Compuserve as well as internation.

It is often a faster, cheaper and more reliable means of exchanging information than the traditional paper-hased husiness transaction and can play a crucial role in automating a transaction chain.

These benefits have spurred growth in the use of EDI in the US, where it originated, and in the UK and the Netherlands which lead Europe in EDI

Ovum expects the EDI market in Europe, including customer software and support, to grow from about Ecu 196m in 1992 to about Ecu 590m in 1997, a compound annual growth rate of 24 per cent.

The market leaders in Europe are IBM and Geis which have pan-European networks and services and International Network Services (INS, jointly owned by Geis and ICL) which dominates the market in the UK with an estimated 55 per cent market

Electronic mail

Unlike EDL electronic mail is a non-interactive service based on sending computer originated messages across a telecommunications network In Europe, electronic mail is already a significant and fastexpanding Vans market.

Ovum estimates that service providers earned Ecu 176m from electronic mail services last year and will earn almost

ECu 1.5hn hy 1997. The largest share of the market is held by BT GNS (formerly Tymnet) followed by

IBM, Unisource and Geis. Ovum has identified seven other smaller market players including AT&T, Easylink, Mercury and Sprint, The UK is the largest electronic mail mar-

ket in Europe.

Enhanced facsimile

Valoe-added fax services are now widely available in the US and Europe and have proved highly popular on both sides of the Atlantic.

Common features include broadcast fax to multiple destinations, antomatic retry and deferred delivery.

Ovum says the the European market is expanding "spectacu. larly" and is set to become one of the larger Vans markets growing 12 fold to be worth Ecu 436m by 1997 compared to

Ecu 36.3m last year. Part of the reason for this substantial increase is the popularity of basic fax services coupled with a desire by corporate customers in particular to control and cut fax costs.

The PTT are among the most active suppliers of enhanced fax services however there are also a growing number of niche suppliers. In Europe, AT&T Easylink led the way in 1990 with its Enhanced Fax (E-Fax) service and Italcable launched its Multifax service the following year.

In the UK, which is the largest market in Europe, BT, Mercury and Sprint all offer

: REC

THIS IT D

Among the other Vans videotext during the 1980s all the European PTTs followed BT's example and launched videotext services but while these have proved very popular in some markets such as France. they have been much slower to develop in other markets including the UK and Ger-

many. What is certain is that PTOs and others will continue to devise new value-added network services in an attempt to boost revenues, exploit the technology and retain their customers.



Barclays de Zoete Wedd Warrants Limited issued and lead managed US\$48 million of covered warrants over the American Depositary Series L Shares of Teléfonos de México.

Barclays de Zoete Wedd. Warrants Limited issued and lead managed US\$8 million of covered warrants over the American Depositary Series L Shares of Teléfonos de México.

Barclays de Zoete Wedd New Zealand acted as global distributor for Bell Atlantic Holdings Limited in the purchase of 108.9 million Telecom Corporation of New Zealand shares for NZ\$283:2 million.



Barclays de Zoete Wedd acted ... as financial adviser to BCE Telecom international Inc. in the acquisition for £480,000,000 of a 20% interest in Mercury Communications Limited and the associated sale of a 20% interest in BCETI Cable Limited to Cable and



HUGHES

Allan E Cook Chief Executive Officer Hughes Microelectronics

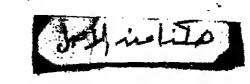
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LOCATE IN SCOTLAND

INVEST IN FIFE





gle digital standard to provide

a seamless cellular system

across Europe has provided

several key advantages includ-

ing ensuring substantial econo-

mies of scale for infrastructure

and handset equipment manu-

In contrast, in the US a dis-

pute between network opera-

tors over two rival digital stan-

dards, one called time division

multiple access (TDMA) and

the other called code-division

multiple access (CDMA) has

delayed the widespread intro-

Twenty-three operators in 16

European countries committed

themselves to building GSM

networks, and more than

another 20 countries around

the world, including many in

Asia, have adopted GSM as the

basis for their next generation

The first GSM networks were

launched 15 months ago in

Germany, France and Den-

mark, and all the leading Euro-

pean Community states apart

from Spain now have them in

operation, although in some

coverage is still patchy. GSM

subscribers have accounted for

about one third of all new sub-

scribers to cellular networks in

By the end of this year, Data-

quest is forecasting that there

will be 1.1m digital subscribers

in Europe, growing to 8.31m by the end of 1996. The biggest

market by far has been Ger-

many which had over 500,000

subscribers to its two GSM net-

per cent of the European total.

two GSM network operators in

of cellular analogue networks,

which were mostly provided by

except for the UK where two

competing analogue cellular

network operators were also

licensed. These were Cellnet.

in which BT, the former state

monopoly operator, holds a 60

per cent stake, and Vodafone,

Vodafone's GSM network is

the market leader.

works by the end of July - 80

Most countries have licensed

estern Europe since then.

of cellular services.

duction of digital systems.

facturers.

The world's fastest growing cellular market is the Asia-Pacific region, reports Paul Taylor

VER the past 18

months Europe has pro-

dential customers and will help

ensure that mobile telephony

Productions

a year later.

19.1m by the year 2000.

Growth is more difficult to

predict in eastern Europe

although a number of coun-

tries including Poland, Czecho-

slovakia and Bulgaria have

plans for cellular systems and

some like Hungary are leap-

■ MOBILE COMMUNICATIONS

Subscriber base now 23 million

vided the launchpad for the second generation of mobile telecommunications Licensing new cellular operanetworks and a new range of tors - sometimes including services based on digital rather overseas companies like US than analogue technology. West - also provides an oppor-tunity to introduce competi-These new digital networks - labelled with acronyms like tion. But the fastest growing cellular market is the Asia Pa-GSM, MCN and PCN (or PCS in the US) - promise to deliver a cific region. The number of celwide range of sophisticated lular subscribers in the largest new voice and data services to markets grew by 50 per cent to corporate, individual and resi-4m last year, and growth in the

remains the fastest growing the US. segment of the world telecom-Indeed, it is not just cellular munications industry. radio services which are boom-The 1980s saw the hirth of ing in region. Telepoint and mobile cellular telecommunicapaging services have also tions, but the 1990s have seen proved highly popular, particuthem blossom. According to larly in Hong Kong where Mobile Communications, the there are now three telepoint FT Newsletter, the worldwide networks and more than 800,000 paging snbscribers, matching the tally for the cellular telephone enbscriber base grew by more than 40 per cent to 23m last year.

whole of the UK. In the US, which remains the This worldwide surge in biggest cellular market, snbdemand for mobile telecommuscriber numbers have grown nications services means that from around a million in 1984 by the end of this decade half to over 12m today and the pace of all telephone calls worldis still accelerating. Economic wide are expected to originate and Management Consultants or terminate on a mobile International (ECMI), the phone - and a growing propor-Washington-based consultancy, tion of those telephones will be has forecast 17.7m US subscriboperating on the new digital ers by the end of 1995 and 25m

current year is again expected

to outstrip that in Europe and

Digital technology provides In western Europe the picsome advantages over older ture is similar with the subanalogue systems. Among scriber base rising by almost 35 these, digital mobile teleper cent to 7.25m in the 12 phones can provide more relimonths to the end of July. CIT able, clearer and more secure Research, the London-based telecommunications technology consultancy, has although at least for the oredicted nearly 12m subscribmoment these usually have to be offset by higher equipment

> But digital services are also intrinsically more "efficient" because by converting ordinary sound into computer code they can also pack at least 10 times as many calls into the same 'space' in the radio spectrum.

frogging the older analogue technology and moving They are also easier to intedirectly to digital systems. grate with modern fixed tele-In some areas of the former communications and data pro-Eastern Bloc, including eastern cessing equipment and enable Germany, cellular systems pronetwork operators and others to provide a wide range of vide a relatively cheap and effective alternative to the value added customer services like messaging services and dilapidated, inadequate and unreliable fixed wire systems. data transmission.

Western European cellular growth This list shows the top 12 countries for subscribe growth in 1992, with the percentage growth share in each case. The number of subscribers in western Europe reached 5.98 million

Germany, 410,414 30.4% Itely, 213,302 15.8% UK, 167,100 12.4% Sweden; 87,788 6.5% Spain,72,258 --- 5.4% Finland, 63,816 4.7% Austria, 57,836 4.8% Netherlands, 49,509 3,7% Norway, 48,495 3.6% Switzerland, 40,504 3.0% Denmark, 35.467 _____ 26%

Although the US led way with the first generation of cellular services in the early 1980s, Europe has taken the lead in switch to digital systems in the 1990s. The driving force behind this move was the adoption in the mid-1980s of a pan-European digital telecommunications standard called GSM, (Groupe Speciale

Source: Financial Terror, Mobile Communications Newslattes



Vodafone bas already has reached GSM roaming agreements with a number of other network operators overseas which enables GSM subscribers carrying their personal smartcards to make calls using a GSM phone anywhere in

aimed at the broader consumer market complimentary rather

expand coverage rapidly. Next April a second PCN service is

Meanwhile, Vodafone has nology. Like One-2-One Metro-

The arrival of these new services has, as expected, already triggered an advertising blitz and fierce pricing war between operators in the UK and is also likely to lead to some repositioning of the two analogue networks - both Cellnet and Vodafone have recently revised

Elsewhere in Europe, PCN services are likely to be developed in Germany, France and Spain. Some countries have also licensed digital call-only Telepoint services, such as Hutchison's Rabbit service in the UK and France Telecom's

contrast to the first generation the state-controlled PTTs a gradual migration to them. Similarly, although it is likely on cost with fixed wire netalready operational while Cell-

net plans to launch its system early next year, initially on a regional basis. Meanwhile,

Europe.
For the moment, these GSM services are mostly being marketed as premium services for husiness customers. Another set of new digital services. being pioneered in the UK, are

than rival to the traditional fixed line domestic telephone. Last month the first of these new PCN (Personal Communications Network) services. dubbed One-2-One, was launched in the London area hy a joint venture of Mercury Communications and US West.

Initially, its coverage is con-fined to the M25 area around London, but there are plans to due to be launched by Hutchison Microtel, a subsidiary of Hutchison Telecom.

launched a second national digital service called MetroDigital which exploits GSM tech-Digital is designed to provide a lower-cost local digital portable telephone service for use mainly in urban areas.

their tariff structures.

Be-Bop service in Paris.

GSM and the other new digital services will not replace the older analogue networks immediately - there will probably be to be many years before mobile systems can compete directly works, new competition is likely to erode the premium that mobile telephony still commands.

George Black examines the 'mobile' market's prospects

Prices are crucial

HE mobile telephone market is one in which the stimulating effect of de-regulation looks almost incontrovertible. But it is less clear whether privatisation is essential for growth.

Telephone operators and nthorities across Europe are still puzzling over exactly what are the key factors that drive the business.

In the UK, deregulation cou-pled with privatisation created competition and increased the market through price cuts. But in Germany, deregulation without privatisation has been enough to create growth; and to Italy the market has grown at over 30 per cent through price cuts, even in a monopoly situation. In the Scandinavian coun-

tries, where mobile phones became very popular earlier than in the rest of Europe, cultural factors may have been as important as political or tech-nological ones. A small population spread across a large area and a high proportion of people with two homes were among possible reasons for the

The introduction of new technology seems to have had little to do with market growth so far. UK dealers say that the price is the first question people ask, not whether the system will serve their

Mr Alan Harper, husiness strategy director for Mercury One-2-One, the third company to enter the UK market, said there was no real evidence that digital quality affected buyers much at the moment.

Lower tariffs aimed at recruiting domestic subscribers have helped to increase the market in the past year in the UK, Italy and Germany. In the UK, it began with the launch of the Low Price service by Cellnet (British Telecom and Securicor) in November.

In five months the market doubled its size to about 1m users, and its growth rate from 40,000 connections a month to 80,000. This helped Cellnet to gain ground on its rival Vodafone; Vodafone now has about 1m customers, Cellnet 800,000. The two companies have been signing up new

subscribers in about equal

numbers in recent months. Most market forecasts show between 8m and 10m UK users by the year 2000, although Vodafone expects only 5-6m. This is based on the assumptions of expansion mainly on

range of consumer-targeted tariffs and services. Margins are beginning to narrow for all the contestan they may narrow further with the entry next year of a fourth competitor, Microtel, from

Hutchison Whampoa of Hong

the consumer side, falling

entry-level cost and a wider

Kong. Mr Geoff Finch, director of corporate programmes and strategy for Cellnet, comments: "It is difficult to see that there will be much profitability for four players with 8-10m users and with the current range of services." However, he notes that the market had been outpacing expectations ever since 1983.

HERE have also been recent signs that the level of use hy subscrib ers is beginning to rise. But the key question - to which the telephone companies do not yet know the answer - is whether further price cuts will trigger a higher level of use. "We need to know people's

behaviour patterns more precisely," says Mr Finch. "We are spending many hours try-ing to analyse them."

The launch of the Mercury One-2-One digital service by Cable & Wireless and US West during September was seen by the industry as a marketing success, especially the offer of free calls at off-peak times, to ettract home users.

Mr Harper says that One-2-One's high-street distribution channels had increased their forecasts as a result and there was a temporary shortage of The company bad over 50,000 inquiries in the first

month in response to its £10m

advertising campaign. About 80 per cent of One-2-One's customers were first-time users and more than half of them were primarily domestic users. Early reports are divided on whether digital technology offers any improvement over

analog. The One-2-One service

state of the art

is at present confined to the area within the M25 motorway around London. Some users say it only works well close to the M25, where the base stations are located. Others say they have had good service a number of miles beyond the

Technology enthusiaste insist that digital will prove itself superior and be better able to guarantee a good service. They predict that almost the whole market will go digital over the next 10 years.

Digital will be helped by the progress of the GSM (Groupe Speciale Mobile) pan-European standard. This should prove especially attractive to business users, because through it they can be contacted from Italy to Norway. It will be even more useful when mobile phones start to be used for data transmission.

In Germany, the creation of duopoly has helped the market grow, even without the privatisation of Telekom, which is not expected until at least 1998. Last year the first competitor to Telekom, Mannesmann Mohilfunk, entered the market, using lower prices to catch up and overtake. In July Telekom set up a new private cellular company called DeTeMobil, which has offered cheaper rates and begun to retrieve Telekom's position.

The German market is growing much faster than had been expected. There are at present between 600,000 and 800,000 subscribers and there could be 10m by the year 2,000. A third supplier, E-Plus, will enter the market in 1994.

Italy now has lm users. which puts it second to the UK in the European market. The monopoly of SIP, the public phone operator, has not prevented the market from growing fast.

During October the Italian government was expected to announce plans for allowing e second supplier into the market. Arguably, SIP's new lower off-peak rates targeted et the consumer market have been induced by the prospect of competition, for which the EC has been pushing. The entry of a competitor is expected to bring more price cuts and keep the market growing.

Fife Telecoms news in brief

The telecoms numuracturing sector is dominated by a few large, mainly multinational companies. Scotland has a number of companies manufacturing telecours equipment, including: Philips Small Switching, Mercury, Ferranti mobile telephone handsets from a Scottish manufacturing plant. Recently, the File region has proved extremely attractive to telecours companies.

Marconi Instruments

Invests in Fife Fife electronics conjunent manufacturer Marconi Instruments recently announced plant for expansion at the company's Dombristic Industrial Park site (near Dunfermline). These plans include development of its Scottish service centre as a key satellite in Marcouri Instruments UK service and repair operations: and an incestment of approximately $\mathcal{L}1/3$ million for new facilities in preparation for the launch ut

Locate in Scotland (LiS) was set up

in 1981 as the first one-stup

investment bureau in the UK with a

capacity to deliver turnkey

development packages geared to the

needs of inward investors. Now into

its second decade and with many

notable successes, LiS's mission to

market Scotland as a prime business

The key objectives of the UK

met by a Scottich location; and secondly, to demonstrate to

faising wide other LiS offices overseas to provide continuity of

service and support in foreign-owned client companies based in

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an additional business group within Marconi Instruments which will address a new nearket area for the company.

Selectron Adds 300 New Jobs In 7 Million Expension A total of 3.01 new jobs are to

be created in Fife with the announcement that Philips Circuit Assemblies in Dunfernline, par of the Dutch Philips Group, is being acquired by US electronics company, Selection Corporation. Selectron plans to urvest L7 million on upgrading and expanding the facility.

Selectron is a leading applier of integrated manufacturity services to global

BT Awards £1.3 Million

Marconi Instruments Service Business has been awarded a £1.3 million calibration and repair commet from BT. The contract covers the servicing of seven groups of BT's test asurement equipment. ranging from oscilloscopes to video test equipment, as well a for instruments used on BT extensive cable networks

Telecommunications in Scotland BT providing goes from strength to strength

communications market optic cables to military enters a new period ul' grawth, more and more companies are choosing to base themselves in Scodand. At present uver fill tele-

including Hewlett Packard and Motorola, are based there, employing 15,000 people and manufacturing a diverse range of products sectors, from components for

continuitication systems and telephone exchanges. One of the key incredients for success in Scotland is the ready supply of manpower and technical

Complementing the telecommunications sector is the advanced electronics infrastructure which consists of over 450 companies, in-IIIM, Compay, NCR and

Scodand are employed in the manufacturing of computers semiconductors and related products.

Scotland has benefited from the UK's position as a European leader in the deregulation and liberalisation of the provision of telecummunications equip-

The use of optical tibre and digital switching and transmission has thousa though as a result of unodernisation of

together with the installation of new infrastructure by new telecommunications operators

entering the market. The competitive environ-ment provides users with extensive choice in all areas of vervice provision and sign-Vicant cost benefits, making Scotland rue of the cheapest committee in Europe for most

refecesimiumication services. The thricing Scottish

till colleges, provides a rich soutce of support tu the relecunts industry through research consultancy and highly qualified graduates in the electronics and software fields. Close links with industrial organisations exist at most of the reademic centres, research and limines resources complementate each other perfectly in the development of commi-

unicanous technologies, the 175.000 so it plant at Easter Inch at the beginning of

production at the plant is atraady surpassing targets. of 130, the plent is now employing over 1100 staff, the majorily of whom wate recruited locally.

Over the next five years. numbers at Easter Inch are expecte0 to rise to over 2000 making it the second largest single electronics plant in

pleased with the quality of the aspected litst-tate skills, we were pleasantly surprised by the level of commitment and flexibility 0emonatrate0 by our

*Originally we only employed people with at least two years'

three of the building project the summer of 1994.

companies, and the Sentish business community in ensure that the reclaiologies needed to support Isasiness iencity are not only in place but are of a emissioni quality regardless of location.

In contrast to many other countries. Scotland aims to provide services of comparable quality in both urban and rural areas. Modern relecommunications reclinologies transcend distacles such as terrain of size of community which would traditionally have dictated whether the area was a suitable bosiness

In recent years, BT has

worked with Lneare in

Scotland, the local enterprise

This enterprising artitude has tesulted in many groundbreaking BT services being piloted in Scotland. An example of this is the Edinburgh Telezone - a BT showcase for the future standard of telecommunications. The newly modernised exchanges and calding system have resulted dramarie eut in

installation waiting times and maintenance downtime. Situated within the Telezone, the Edinburgh Teleport will give access to satelline and other lung hand communications then link into the Telezone system für efficient exchange of voice, data and video.

Easy access to a telecoms network of consistent quality means that organisations can restructure at will, go where the skilk are, and still sive on overheads. For employees, it means that the classic dilemma of chousing between quality of life and employment is now intelevant.

In the case of Highlands and Islands. situated in the north of Scutland, the introduction of

telecommunications for Scotland advanced telecommunication technology - as part of a £20 million project be Highlands and Islands Enterprise working alongside BT - has

effectively transformed what

would once have been

considered a 'no-go' area into a viable husidess

BT's commitment re Scotland extends heyond using it as a base for technological testrog. BT communes to choose Scotland as a base from which to provide the increasing number of products and services it matkets to organisations in the UK and

BT's software research and development (R&D) unit, based in Glasgow, has a pivotal rule to play in ensuring that BT maintains us competinve edge.

The unit acts as an inhouse software consultancy for the whole of BT. In the 'new' market-driven BT. however, the unit has to compete for business with outside IT consultancies and systems integraturs. success is based on its ability to provide the skills and expettise equal to that of the largest moln-disciplined - and multi-mational - consultancies.

Proof that distance is no object to the procision of quality service is BT's computer help service based at Thurso, Caithness - 400 miles away from the 70,000 BT comparet users in London for whom the help centre supplies problem salving advice and information.

Another long-distance service is London Directory Assistance, part of which is supplied from the north of Scotland. This project includes a 'teleworking' experiment in which operatuts use speciallydesigned terminals to work

Scotland connects Motorola to Europe

Locate in Scotland privileged few, portable elaphony is fast becoming an International consumer market The latest development to grip the European portable tatephone market is the GSM Global System for Mobile nications) standard. For the European Industry, GSM telephony. GSM frees usets from the restrictions of existing incompatible national cellula office in London are firstly, to Steven Bennett of LIS telephone systema and allows identify UK and Irish companies which have needs that can be for GSM-based cellular phones

No longer the preserve of the

to be used across Europe. have come a long way elnce Motorole introduced the first 'talkie-walkie' back in the late 1930s but, after more than 60 years in the business. Motorola is still at the locefcont of portable telecommunications technology. The company still has the widest range of cellular telephone products end hes significent influence in the development of telecom-

nunications standards. The company's latest 'first' occurted in 1992 when Mototola became the first supplier to ship celluler hand porteble telephones thet conformed to the GSM standard. Motorola followed this with the launch of the MicroTAC International 5000 Series in spring 1993. The 5000 Series was only recently superceded as the world's lightest GSM callular phone by enother Antorole product, the MicroTAC

Motorpia's GSM strategy for Europe is the Caltular Sub--scriber Division's purpose-bull manufacturing plant situated on a 90-acta site et Easter Inch. in the West Lothian region of Scotland. Already supplying over 30 countries worlowloa with the complete range of Motorola cellular products the plant is currently expanding to meat the axpacted demand for digital GSM portable phones. The Easter Inch plant is well

on its way to being tha .company's lateest menutacturing operation in Europe. second only in world terms to the manufecturing lacility at Mototola's headquartars in Libertyville, Illinois. Motorole has been operating out of Easter Inch since January 1992, two years efter the site

was first brought to the company's attention by Locate In Scotland (LIS), lollowing Motorola's decision to move from its north London base. According to Gwyn Pugh,

general manager at Motorola's Cellulet Subscribet Division: *Dut premiees at the time could not support out expansion nor could we find anywhere locally that suited out very specific demands. We wanted a large, greenfield eita on which we could design end build our own factory. We considereo e number of proposals end looked et distribution base as we have possible sites in Portugal, three airports nearby end



England.

Pugh recalled: "The proposal we received from Locate in Scotlend was perticularly impressive. LIS's approach was scrupulously professional. They wete quickly able to demonstrate that they understood precisely what we wanted. We worked with LIS to turn our 'wish-list' Into reality and identified five green-field locations which we evaluated prior to selecting Easter Inch in October 1990."

criterie we'd stipulated. The size was right - allowing ample room for expansion - as was the location. West Lothien is located in the electronics heertland of Europa which meens that local industry is geared to supplying this industry. As a tesuit we can source most of our components locally with increesed costeffectiveness, gueranteed (as) response and greater control. Eestet Inch is elso an Ideet

Eastat Inch fulfilled all the

motorways and real links."

richest source of skilled electronice fabour in Europe right on our doorstep. From the outset, we could be certain that there would be a pool of potential employees Immediately available with the skills and experience the compeny needed. For the luture, the Scottish education eystam continues to prove that it can provide the high calibre talent companies depend "

Seruconductor division, which 1969, which confirmed Scotland's desirability as e manufacturing base.

Mototole's cellular operation began production in e 'starter' lacility at Brucefield. Livingsion whilst the Eester inch lactory was being fitted out. Phase one of the threephase building project was completed in December 1991

Pugh continued: *Being in Scotland means we have the

on which technology-driven Another influential factor was the success of Motorola's had been in East Kilbride since

"We have been extremely

expertence in electronics. We now have sufficient confidence in the adaptability of the local labour force to take on unskilled people. Obviously. experienced staff need besic colleborated with Livingston **Electionic Training Services** (LETS) to design e two-week course that ensures new staff are up-to-speed as quickly as possible," sald Pugh. Work on pheses two and

began in tate 1992 and is already aheed of schedule. This expension will creete a further 275,000 sq it of facilities which will incorporate a sophisticeted international dielibution centre end enhanced menufacturing capability. The enhancements are expected to be complained by

scademic contomity, made 1992.



Such is the buoyancy of the global telecoms

industry that there is

room for the leading suppliers to continue to expand, and for new entrepreneurial

companies to break into

YEBROWS were raised when Northern Telecom announced a 26 per cent slump in profits for the first

quarter of 1993. The Canadian

group has emerged as a dynamic global player in the

telecom equipment business in recent years, and as the only

company with a remote chance of unseating Alcatel and Amer-

ican Telephone and Telegraph as the world's largest telecom

equipment suppliers.
Northern Telecom, analysts

letting down those customers on whose business its global

Its profits slumped, analysts

believe because US regional

telephone companies - the cus-

tomers that Northern Telecom prised away from American Telephone and Telegraph in

the 1980s - were unhappy with the quality of the the products and services it was delivering. Northern Telecom is resilient

and flexible enough to recover

from the setback. But its problems illustrate the pressures that technological change and

market liberalisation are pnt-

telecommunications industry,

companies like Northern Tele-

com have to balance the twin

objectives of expanding into

new markets anri looking after

which have traditionally been

dominated by two, or possibly

three companies - many of which are supported by their

governments as national cham-

pions - has never been easy.

To break into a foreign market

a supplier has traditionally had

to form a joint venture, or buy

a stake in one of the estab-

Siemens became a leading

supplier to British Telecom

through the acquisition of a 40

per cent stake in GPT in 1989,

and to US regional operators as

part of the GPT deal which

included a 50 per cent share in

Winning orders in markets

With the globalisation of the

ting on suppliers.

existing customers.

lished suppliers.

aspirations were founded

their traditional

businesses

Mark Newman looks at the prospects for leading equipment suppliers

Pressure of technological change



Satellites increasingly provide voice, data and video links across confinents and oceans. Pictured above is a French engineer checking the piroscopes on the Eutelsat II F4 satellite in Cannes.

the former Plessey subsidiary Stromberg Carlson.

Nortel bought a 100 per cent stake in STC, the UK's last remaining independent supplier, in 1991, as a platform to expand into Europe, and has since taken a 20 per cent stake in Matra Communications in France. Talks with Bosch in Germany over a similar joint venture broke down in Septem-

ber. Alcatel owes its strength in transmission systems to the purchase of Rockwell Systems of the US in 1991, and in underseas cables, to the takeover of Nortel's cables business agreed in August. The French manuence in the Italian market through Telettra, the former telecom arm of the car giant

AT&T has a 40 per cent stake in Italian public network supplier Italtel, while Ericsson of Sweden owns a majority stakes in Schrack of Austria and a minority-stake in the Greek supplier Intracom. In mobile communications.

Ericsson has a 50 per cent stake in the UK company Orbitel and an 80 per cent stake in the former General Electric subsidiary, GE Mobile.

Mr John Dinsdale, a senior industry analyst at telecoms consultancy Dataquest. believes that supplier rationsalisation is far from over.

In particular, companies which have relied almost exclusively on contracts from state-controlled telephone operators, will be forced to team up with larger suppliars, he believes. Even though most telephone operators are still state-owned, many now oper-ate independently from ministerial control and gone are the days when they were expected to award contracts to domestic

But the conventional wisdom that there would be no more than six suppliers of public telecommunications systems by the year 2000 now seems misguided. Telecoms is expanding so quickly, and in so many different directions, that it would inconceivable for a handful of suppliers to control the market.

To understand the forces that determine the structure of the telecoms supply business, equipment can be divided into two overlapping categories.

One category is stable both in terms of technology and market share, while in the second, technology is evolving so quickly that no supplier can feel totally secure.

Public switch and transmission systems

The first - and by far the larger of the two - is public switch and transmission systems for conventional teleFinancing telecoms intrastructure: EBRD operations approved

Listed here is a brief description of each project with it value, with investment by the European Bank for Reconstruction and Development shows at buildings.

I ROMANIAN TELECOMS - defeat operary province

(EBRD: \$170m).

I HUNGARIAN TELECOMS - digital overlay naturals programme, \$240m, (EBRD \$62m).

I HUNGARY - Westel Radiotelisto KFT: cellilar programme.

\$82m. (ESRO, \$10m). G POLAND - Polskir Telefonia Komorko

scess focal and regionist, \$44m; (EBRD; \$88m)

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REGIONAL - Empirion network expansion

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for TV transmissions \$14mt (EBRD) \$14mt
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(EBRD, \$11m); I SLOVAK REPÜBLIC; callular deve

\$9m). SLOVAK TELECOMS - digital awartey sy

\$53m). [] TOTAL \$2,728m (EBRD \$648m).

ardnous, less rewarding task of

digitalising local networks.

particular, China,

until the end of the decade, In Europe and North Amerand has already chosen Sieica, the market for public switches has largely been mens, Ericsson, Fujitsu, Alcatel and AT&T as preferred played out. Operators hava suppliers. Other growth regions already digitalised their long-distance networks, and have moved onto the more include eastern Europe where Siemens has been active with

They have already selected their preferred suppliers - in Cellular systems, voice many cases, and there are few opportunities for newcomers. and data services

The most attractive opportunities for suppliers of public The second category groups switches are in Asia, and in together cellular telephone systems, data communications This year, China will huy nine million lines of which networks, high capacity broadhand networks and private Alcatel will deliver five million systems for both voice and data services.

the setting up of nine joint

ventures in seven countries.

lines, and the balance will be divided between Ericsson, Sie-Technology is changing so fast in these areas that oppormens, AT&T, Nortel and NEC. India, the continent's next tunities are available for new largest growth market, will companies to compete with the huy two million lines of public switching equipemnt a year established suppliers.

Ericsson and Motorola are-

firmly established as the leading suppliers of cellular tele-phone networks, while Motorola and Nokia of Finland are the largest suppliers of cellul t

telephones.

Mobile communications is the fastest growing sector of the equipment supply business, and as consumer electronics companies diversify into mobile telephones, they will increasingly compete with telecommunications companies. Sony, for example, is supplying telephones to UK cellular telephone operator Cellnet which, for the last year, has been targetting the consumer

market.
The UK company Amstrad which is better known for aup-plying budget PCs, is set the become a mobile telephona supplier following its takeover last month of Danish manufac-

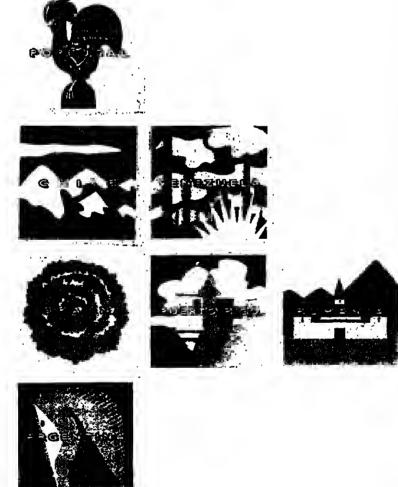
turer, Dancall.
In the dynamic field of data communications, the arrival of US networking companies is threatening to knock leading equipment suppliers off their

perch.
Systems are increasingly hased on sophisticated computer software, and networking companies like Novell, Cisco Systems and Synoptics, are bringing products to the market quicker than the lass-est companies with a background in telecommunications.

The leading equipment manufacturers are hoping that telephone operators will commit heavily to broadband networks - high capacity systems that can transmit huge volume of voice, data and image information. Operators are testing broadband networks based around a switch technology called Asynchronous Transer Mode, and transmission systems using Synchronous Digital Kierarchy Technology (SDH). But the demand from users is hard to predict and operators are conducting tra-nical and commercial trials before committing themselves to massive investment pro

grammes in broadband. Such is the buoyancy of the global telecommunications industry that there is room for the leading suppliers to continue to expand, and for new entrepreneurial companies to break into their traditional

For established suppliers such as Nortel, a balance must be struck between cultivating new customer relationships and checking up on old friends. The author is editor of the FT newsletter, Telecom Markets.



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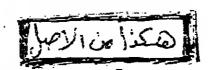
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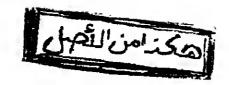
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There is overwhelming evidence that high quality telecom networks. ere essential for economic growth in . developing countries. reports Mark

Newman

N a recent survey of business managers in central and eastern Europe carried out by the Organisation for Economic Co-operation and Development, 44 per cent of respondents said that poor quality telecommunications links were the main barrier to exports to the west, and 53 per cent cited it as the the biggest obstacle to exports to neighbour-

ing countries. Telecommunications modernisation programmes were neglected by Communist governments and international links, in particular, were hope-lessly inadequate when eastern Europe opened to the west in 1989 and 1990.

OECD figures show e strong correlation between GDP per capita and telephone line pene tration across central and eastern Europe. GDP per capital rises by between \$600 and \$1,000 for every five per cent increase in telephone line pen-

A STATE

1112

Improving trunk ad international telephone links was immediately e priority for the new democracies. But finding the money to pay for new tele-phone lines has been a big obstacle which telephone operetors, equipment suppliers, financiers and teams of western consultants, are struggling even now to overcome.

When telephone operators were state-owned organisations operating under ministerial control, financing for telecomcomications development was rovided directly from state,

In the past, finance was not e serious issue for telecommunications operators," according to 'Tim Nulty, e senior World. Bak economist.

"Politicians set the goals and, having done so, were obliged to provide the finance and the necessary inputs. Managers in the telecommunications operators had little responsibility. They merely translated the targets 'delivered from the top' into detailed programmes for installation and lists of required inputs. It was the government's responsi- one western banker. 'Is mar-

■ EQUIPMENT SUPPLIES

There is no quick financial 'fix'

Financing telecoms infrastructure: financing options

Discretells flere are from the European Blank for deconstruction and Development, EBRD. They cultims the flereding options at four stages of infrastructure development. The primary source of finance must be internal case opening the common fluence can be mobilised as

STAGE ONE: public telephone operator under ministry

STAGE TWO: experation of telecoms from other activities: EBRID: Sovereign loans, lender of record. Commercial sources of finance: syndicated loans, proj

Private and bilateral sources: supplier and expert credit STAGE TIMEE corporatisations

D. EEFRE: non-genranced joung, jender of record, guirrantees, project finance equity. Commercial sources of finance: syndicated loans; project to and bilateral sources: supplier and suport cradit,

STAGE FOUR privations

STAGE FOUR: privateation:

ERRD: commercial loans, underwriting, guaranties, squify.

Commercial sources: commercial loans;

Private and bilisteral sources; supplier and export predit, project finance; equity.

bility to see that the necessary goods ad finance were available."

But the dismantling of central planning, and the enormous investments required to make np for the years of neglect, means that the telecommunications operators need to look elsewhere for fin-

HE World Bank, the European Investment Bank, and the European Bank of Reconstruction and Development, EBRD, have taken the lead in securing finece for telecommunications projects in eastern Europe. They have raised money for international gateways, cellular telephone networks ad digital trunk backbone networks. All are essential for international business, but less rewarding process of upgrading ad extending the basic telephone network has not even started in a number of coun-

"The problem," according to

keting projects as an attractive

investment opportunity."

Mr Clell Harral, a deputy director for infrastructure, energy and environment at the EBRD, says there are e number of reasons why investors are cautious ebout project finance schemes in which debt finance is secured solely on revenues from the investment "The country risk, the for-

eign exchange risk and the

instability of the government regime with respect to regulatory policies, the greater uncertainties of demand forecasts, contractual counter-party credit risks and uncertainties regarding the enforceability of legal structures" are all significant risks that have to be dealt with, Mr Harral says.
As a result, potential inves-

tors have shied away from project finance - "there's been e lot of talk about project finance and not much action." according to one leading

> In eastern Europe, the KBRD is most optimistic about over-



Airborne cable: a halicopter at Cape Wrath in north-west Scotland is



Cable duct inspection, 35 feet below ground at Maldenhead

coming these obstacles in Hungary, Poland ad the Czech Republic where telephone operators' activities are being separated from the ministries and modest tariff reform programmes are under way. Buildoperate-transfer (BOT) project finance, for example, "is a seri-ous option today" in these countries, adds Mr Harral. .

A different picture is emerging in south-east Asia where telephone operators are finding it relatively easy to finance infrastructure projects - "all forms of investors are willing to invest in countries such as Thailand, Korea and Malaysia, according to a senior economist in one commercial bank. Equity investment, supplier



BT's Westward District is helping to save lives at a remote Kenyan hospital. In the past, Chogoria hospital, with its widespread wards, had to send runners to fetch doctors — now it has an 80-phone system. BT engineer lan Fixins, above left, is pictured checking new lines.

finance and project finance are line revenues. all available, which means that TelecomAs telephone operators can go for

the best deal, he adds. One of the most imaginative financing packages was put together in Thailand where two international consortia are installing telephone lines in Bangkok and outlying rural

areas in return for a share in

TelecomAsia, which is majority-owned by Charoen Pokphand Group, has a 25-year build-operate-transfer agreement with the Telephone Organisation of Thailand, to instal 2m phone lines in Bangkok. The project is being managed by US regional telephone company, Nynex.

Japanese domestic telephone operate Nippon Telegraph and Telephone, meanwhile, has a stake in the majority Thaiowned Thai Telephone and Telecommunications, which has a 25-year BOT agreement to instal a million provincial telephone lines. The most ambitious moderni-

sation programmes are in India and China. lan MacLeod, a telecommunications equipment industry analyst et Natwest Sellier in Paris, says that China will buy 9m telephone lines in 1993.

If China meets its target of increasing telephone line penetration from two per cent to 10 per cent by the year 2000, it will need to buy 12m lines e year for the rest of the decade, Mr MacLeod adds.

HINA is paying for telephone lines in hard cur-rency out of its big trade surplus. But it will inevitably seek to open lines of finance in north America and western Europe, many analysts believe.

Central control of telecom operations will have to be relaxed if China wants private investors to contribute to the modernisation programme, according to one western

"If they try to do it in e monolithic way, they wouldn't have the money nad no one abroad will lend it to them," he

"What they have to do - and what they are doing - is open-ing np evenues for smaller

Similarly, India may have to reform the telecommunications sector to meet its target of installing two million lines e year until the year 2000.

Importing telephone lines has been made easier by the willingness of leading suppliers to accept payment in the new-ly-convertible rupee. They are also in discussions about supplier finance, but this will only meet part of the total financing

Developing countries understand the importance of telecoms to their economies. But financing modernisation programmes is a long, arduous

fix and developing countries will have to continue to rely heavily on internally-generated funds from high-margin businesses such as mobile communications and international services to finance basic infrastructure projects.

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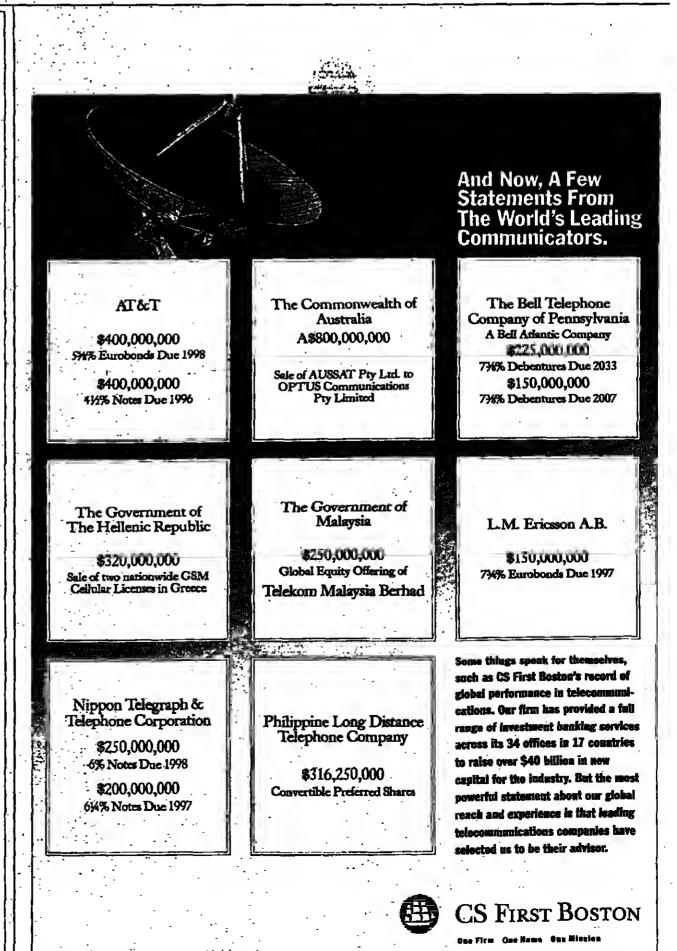
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Integration is the key

HE LIBERALISATION of telecommunications ne regimes has accelerated the pace of change in the provision of private network desystems and services.

At the same time, new technologies are being developed and many companies are considering alternatives to building, operating and maintaining their own dedicated networks.

The market at stake is buge. According to some estimates the combined European telecoms equipment and services market will be worth \$200 in hy 1996, (see pages 14 and 15 of this survey).

The world market equipment alone amounts to \$128bn e year, with the US accounting for \$44.8bn (35 per cent), and the EC for \$30.7bn (24 per cent) - and within these totals the merket for privete branch exchanges (PBXs) remains one of the largest sectors.

However, the advent of digi-

However, the advent of digital technology and the new rules of competition have created a much wider range of network equipment, service and supplier options. Customers no longer have to accept separate and inflexible epproaches to their voice and data transmission requirements.

roday's corporate network needs to be flexible, upgradeable and expandable in order to accommodate the changing demands which are likely to be placed on it. The network may well be a hybrid, using private point-to-point links for steady high-volume and high-security traffic and dial-up bandwidth services to cope with traffic peaks and special require-

Increasingly, it needs to support integrated voice and data communications as well as new applications, such as video-conferencing.

ments.

This requirement for integration poses a challenge for the treditional private network and the manufacturers of PBX equipment, in particuler. As the New Jersey-based Insight Research group noted in a recent report, the PBX industry "is et a crossroads." After three years, during which almost all PBX suppliers made losses Insight suggests that "two major obstacles confront the entire industry" – how to make money, and how to reignite the enthusiasm the PBX industry enjoyed in the early

In particular, Insight warns that PBX manufacturers face e challenge from data communi-

Today's corporate network cations equipment vendors needs to be flexible, upgradeable and expandable in order local area network (Lan) customers true voice and data

integration products.

This challenge will be re-inforced by emerging new technologies like ATM (Asynchronous Transfer. Mode), which combines the best features of multiplexing and cell switching to mix high-speed voice, data and video traffic, and Frame reley which uses high-speed packet switching technology to handle data traffic between sites.

Today's PBX industry is 'at a crossroads,' say market analysts

However, perhaps the biggest change under way is the move towards maneged network services (MNS), virtual private networks (VPNs) and "outsourcing," (see page 7 in

this survey).

Beginning in the 1970s, many large companies built their own dedicated telecommunications networks for voice and data traffic using leased lines. But now many large customers are either asking outsiders to manage their own internal net-

works and facilities, or buying-in the sophisticated network services which they need.

This year MNS are expected to account for 16 per cent of the total European market for Value-Added Network Services (Vans), according to Datamonitor, the London-based technology research group, which also predicts that the proportion will "rise dramatically as the key product segments such as network outsourcing grow at rates of up to 50 per cent annually for the next few years."

One of the most popular

"bought-in" services in the US is "Centrex," where the features of a conventional company PBX - such as desk-to-desk and short code dialing - are provided by the network operator who partitions off part of the public telephone exchange to act as a customer's office telephone system. The customer pays a regular fixed sum for the exchange equipment and a veriable increment based on usage, but avoids the need for substantial

capital investment.

Centrex services have proved particularly popular in the US where they have been evailable since the early 1980s and they have been ectively marticularly markets.

keted by the regional bell operating companies as a "cost-effective, hassle-free alternative to PBKs, especially to the small and medium-sized company thet cannot afford the overhead of a dedicated telecommunications staff."

In the case of MNS, most or all of the day-to-day running of a corporate voice or data network (Managed Data Network) is undertaken by an outside contractor. In the UK, managed network services are elso available from the two domestic network operators as well as international competitors like AT&T of the US.

"Customers are usually

looking for a long-term but flexible relationship," says Mr David Sexton, customer director for MNS at Mercury. Sevaral key factors help explain the recent rapid

growth in MNS:

| First: the cost of private leased circuits has been increased in recent years as e result of tariff re-balancing in the late 1990s which changes the economics of private networks.

Second: many customers are under-going rapid change themselves which often requires substantial re-oganisation of telecommunications ser-

international network management: the Alcatel 4750 network management centre, demonstrated here, aims to offer flexible, seemless management, even with ISON capability and with mustivendor networks

vices without disruption.

| Third: technological advances means rapid change or "churn" in customer prem-

Virtual Private Networks (VPNs) represent another, even more flexible alternative to the private network. VPNs provide the features and functionality of a private network based on leased circuits, with the flexibility and security of the public switched telephone networks — on a domestic or international basis.

This eliminates the need for continual capital investment in new technology and means that capacity is available on demand and paid for on e usage basis. The simplest VPN simply provides a business customer with a way to link the switchboards on different sites - even if they are in different countries - without having the expense of installing and running their own private network.

movide allow customers take advantage of the embedded intelligence in the network and, for example, "dial-up" additional bandwidth (line capacity) when it is required for a videoconference or to accommodate a peak during the day in electronic mail messages. Perhaps most significantly, a VPN can be reconfigured rapidly to meet the customer's changing

In the US, all three long distance carriers, AT&T, MCI and US Sprint, introduced voice VPN services in the mid-1990s and almost all of the top 1,000 US companies use the service. Similarly, in tha UK, the increesing competition between Mercury and BT for big business customers has helped stimulate interest in

For some companies the nature of their telecom traffic may mean that they continue, to use private networks for their most sensitive data or on routes where very high volumes of traffic are regularly transmitted, but use a managed network or e VPN for other traffic.

■ PERSONAL NUMBERS

The shape of things to come.

One day, everyone may be given a telecoms number at birth, as they get a national insurance number today, reports Andrew Adonis

By THE turn of the century, business cards listing a veritable directory of phone and fax numbers could be a thing of the past.

Instead, most business people may have just one numbers

Instead, most business people may have just one number — e "personal number" connecting callers to whichever telephone, fax or messaging service its "owner" chooses at any given time.

Rventually, everyone might get e telecoms number et birth, just as in the UK they are given a national insurance number today, but for the foreseable future "personal numbering" will be e premium-rate service, geared mainly at companies, executives and others on the move and wanting to be contactable anywhere, anytime.

anytime.

The technology for the task is largely in place, with the development of intelligent networks which can "recognise" different types of call, refer to databases, and then direct calls – and charge for them –

in e pre-determined fashion.

There is strong support for personal numbering from regulatory authorities, which are keen to boost competition between operators to provide new value-added services. In the UK, Oftel, the industry regulator, proposes to devote e large block of numbers for personal numbering. Prefixed by the digits '07', they would come on stream when the existing numbering regime is

reformed in 1995.

A recent Oftel policy statement highlighted personal numbering "an area of rapid growth" in the next few years. It pointed to the US, where AT&T has launched a service using "700" numbers and the Federal Communications Commission has floated the idea that the "500" number range be generally used for personal communications services.

The expense of the operation is widely thought to make it unviable. When Oftel published its statement on numbering this summer, e BT spokesman dismissed the idea as "way, way off... It's like Concorde," he said. "You can build it, but that doesn't mean many people will be able to afford to fly in it."

With a \$7 a month subscrip-

tion, AT&T's "BasyReach" service is not underly expensive. Two companies are planning to launch similar services in the UK - Goodall Personal Numbering (GPN), which will brand a personal numbering service under the name "Flextel" from the end of this year; and "Numbering Viewed Worldwide", which plans to enter the market next year. Neither is toying with tariffs that will unduly frighten those anxious for their services.

Goodall has two separate services in mind. First, a "low mobility" service geared et companies which want a single number they can keep when they move. Second, e "high mobility" personal number which individuals can take around with them day by day! Numbering Viewed Worldwide will concentrate on the second service. Mr Will Goodall. GPN's founder, believes the low mobility services will have

most impact in the short term

"the damage done to businesses by number changes is
enormous," he says. "Many
will be prepared to pay e small
premium for the security of
being able to move all or part
of their operation around
without forfeiting their num-

He downplays the immediate potential of "high mobility" services. "If people want day-by-day number portability, cellular services are doing most of the job already," he says. In any case, there are seri-

In any case, there are serious practical difficulties in making e "high mobility" serious vice viable. They are high-lighted by Dr Michael Grant of Analysys, the Cambridge-based telecoms consultancy.

The key problem is to find e

The key problem is to find e quick and simple way for the "owner" of the database to update it with his/her movements on a day-by-day hasis. AT&T's "EasyReach" relies on real-time updating, requiring users to phone e database each time they want their number transferred — unless they follow a pre-set daily pattern. This can be an off-putting process.

As Dr Grant says of existing solutions: "The user required to inform the system of home, office and mobile telephone numbers, manage e list of preferred and harred caller numbers, specify rerouting times, and make adhoc changes to the profile as the daily work pattern changes from its normal rontine."

Moreover, "informing the system" generally requires e phone call, the entering of an account code and PIN number and then the number of the terminal on which the user wishes to register.

HE search is on for new technological solutions, to the problem. Dr Granthighlights five which have potential:

 Calling line identification, being introduced in many networks around the world, which greatly reduces the time taken to register on a terminal.

cept, which could automate both the dialling of the service provider and the entering of the account number. • Voice recognition, which could be used to speed up the

The DTMF "tone card" con-

could be used to speed up the inter-action.

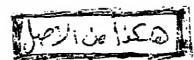
Subscriber identity module (SIM) cards – as already with phones on GSM digital cellular networks – which could be used to separate handsets from numbers, making all handsets

docking stations for mobile

Turning phones "on" and "off", to give signals to the network - 25, again, do mobile phones already - as to whether the subscriber is there, and routing calls

of the five, the SIM concept is the most path-breaking. Once the people, not the phones, have the numbers, the era of mobile communications will have truly arrived.





FINANCIAL TIMES SURVEY

COMPUTERS IN MANUFACTURING

Monday October 18 1993

With Cadcam - computer-aided design and manufacturing - reaching new levels of sophistication, the challenge for customers is to find what is right for them rather than pay for what the equipment vendors want them to buy, writes Andrew Baxter

This time IT has to work

HERE CAN be few markets where the disap-pointments of the past are so closely matched by the promise for the future as that of the computers and information technology products used

in manufacturing.
Cuetomers faced with an increasingly complex array of technologies are trying to forget the frustrations of the midto-late 1980s - when many of the products they bought simply failed to live up to expecta-

Now, in the more straitened circumstances of the 1990s when all capital investments have to be scrutinised closely. especially in the recession-hit engineering sector, advances in technology promise to make real some of the illusory gains

of the past.
That, at least, is what IT vendors will be hoping to prove at the Computers in Manufacturing Show (CIM '93), which runs from tomorrow until Thursday at Birmingham's National Exhibition Centre - under the motto: "Squeeze harder."

Behind the optimism lies the conviction that their customers have learnt from the past, too. No longer dazzled by technology, manufacturers are learning the hard way that they need a business strategy that is supported and enhanced by IT, rather than vice versa

The state of the current market place is revealed by recent

studies, backed up hy the viewe of leading vendors, which show epending on IT continuing to rise even as customers try to achieve value for

In July, the annual survey by Price Waterhouse Management Consultants of spending on IT suggested it had slipped out of the grip of British managers and might be racing away out of control

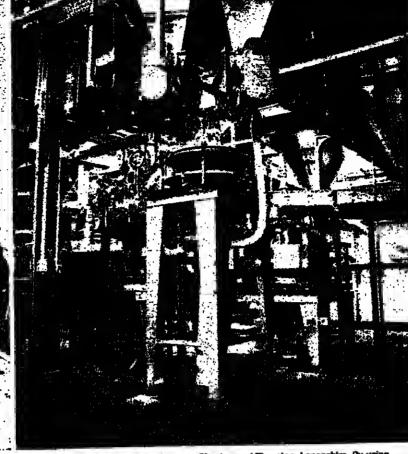
It found that spending had risen by 9 per cent last year, hringing the increase in the past three years to nearly 50 per cent. British managers had yet to tackle effectively the problem of how to make the commuter work more cheaply for their companies, it said.

The Price Waterhouse survey covered all UK businesses and included the public sector, but figures produced by Benchmark for CIM '93 show that spending on IT in the manufacturing sector has also continued to rise. Total spending by manufac-

turers on computers for manufacturing applications rose from £1.37bn in 1992-93 to a projected £1.41bn in the 12 months from this summer, with engineering industries accounting for £780m and process industries for £628m.

Further research by Benchmark during the summer revealed what Mr John Puttick, European director of manufacturing for PA Consulting





with a 250m turnover and factories at Helsby, near Chester, and Thornton, Lancashire. By using Movex information technology, EVC has cut its IT budget by half while reducing stocks by 33 per cent. The company now employs only two people in its IT department A processing machine at EVC Compounds, a joint venture bet

Group, sees as a communication gap between IT suppliers and manufacturers that is holding back UK industry.

The research showed that manufacturers remained unconvinced and distrustful of the benefits of IT and reverted to manual methods during critical production runs, Some 43 per cent of managers polled still believed that manual methods were more suited to control shopfloor processes and 21 per cent were convinced that manual methods were better for scheduling production.

Mr Puttick says manufacturers are "so caught up in the chaotic world of the factory floor that they are unable to define their problems adequately, let alone explain them to anyone else. Meanwhile, IT

suppliers do not fully understand the manufacturing world and are so sales-oriented that they are not focusing on the real problem.

On top of that, manufacturers clearly worry about what the spending on IT has achieved. Mr John Farrant, consultant at IBM Consulting Group, says that over the past 10 years there has been a dra-matic increase in the performance of IT systems, with the change from mainframes to personal computers and now workstations, and "staggering" development in Cadcam tech-

> "But over the last couple of years, people have been saying: Twe invested, I've bought the technology, but I'm not sure it's doing anything for me'."

A few years back, he says, potential purchasers of a new Cad system would be "literally bedazzled" by the vendor's presentation, and would burst into spontaneous applause. "But the recession has changed all that. People are saying thet they must quantify the bene-

fits of a new investment." Mr Farrant contrasts the hard-nosed approach to IT buy-ing in the US - where it is a "business-led decision, not driven by the technology" - to the more experimental approach in the UK, where industry has tended to use technology to see what the benefits are.

But some see another contrast between attitudes in the UK and those of continental Europe. Mr Ray Krienke, sales

co-ordinator for European manufacturing industry at the Cadcam supplier Intergraph, says UK manufacturers have always tried to get value for money, because of the cyclical nature of the UK market.

"In Germany, it has been the other extreme - companies have stuck with a system if it did a job, and expanded it regularly every year. But in the past nine months, that attitude has changed because of the recession, and capital spending has halted or been called into question.

Across Europe as a whole, he says, most manufacturers have invested significantly in Cadcam. "They have speeded up a function or a department, and they have made a return, but so has everyone else.

the one to match Page 2 EDS UNIGRAPHICS: where modesty is out of place

TEXTILE INDUSTRY: areas ripe for technology Page 3

IN THIS SURVEY

■ NEW PRODUCTS: focus

switches to integration PARAMETRIC TECHNOLOGY:

■ AEROSPACE: components MOTOR INDUSTRY: shorter Page 4 development times

years ahead of engineering in

terms of the control offered by IT over business functions. He suggests that, if compa nies wish to reduce the cost of the design phase in product development - often estimated to be as much as 80 per cent of the total - they need to ensure that the design engineer has all the relevant information available about the product and its business context, rather than just its design data. "This is where artificial intelligence can help enor-

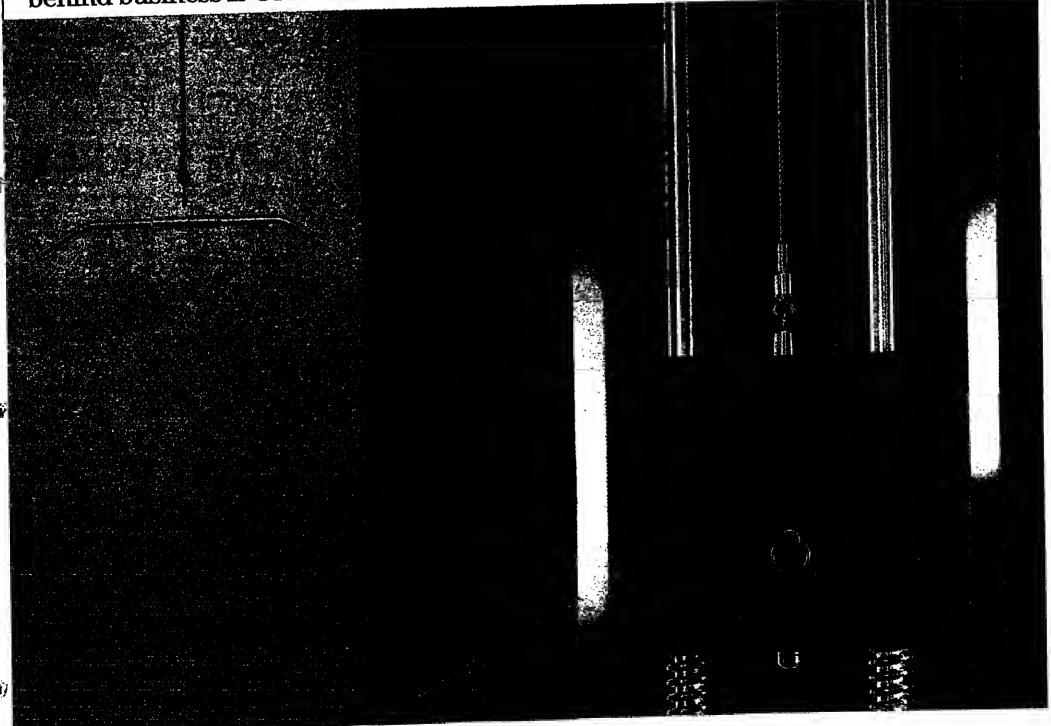
mously," he says. The desire by manufacturers to ensure that information is available throughout the business also points to an increas-ing role for powerful databases and their related applications software, as illustrated by the experience of Ford Electronics in Spain (see Page 2).

The need for companies to "pull things together" via their IT investments also convinces Mr Krienke that there are still good opportunities in relatively mature industrial sectors such as automotive and aerospace industries.

Their huge investments in systems have delivered some of the beoefits they expected but not all. Now they are asking whether there is a better way of doing things. So they are looking at systems that can heip them see the big picture as well as give them more 'functionality' at departmental

From the customer's point of view, though, the big picture also involves having a clear idea of how the business works before using IT. Then the paybacks that have proved unachievable in the past can eral painful phases, is about 15 become a reality.

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"Now they are trying to take

another step forward on return

on investment. They can con-

tinue increasing efficiency

through departmental solu-

tions, and can also recognise

the huge benefits from sharing

data across departments."
It is in this area, integrating

through IT all the functions

involved in product develop-

ment and manufacturing, that

most progress still has to be made, and where the future

competitive advantages from

spending on IT could well be

Mr Farrant sees the main

challenge for IT vendors as

helping companies to integrate

the engineering world with

that of manufacturing itself

which, after going through sev-

derived.

Hewlett-Packard was among the first to identify the incredible potential of UNIX. A fact that has made HP the world's number ooe supplier of distributed UNIX workstations and midrange

It's just one of the compelling reasons why many leading software companies have selected HP UNIX systems as their first choice development platform.



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HEWLETT PACKARD

management and process plan-

ning packages through produc-

tion, operator and quality per-

Cimline will be demonstrat-

ing how its Linkage network-

ing product can help integrate

diverse application packages

from different vendors. At CIM

'93 it will be implementing a

network in which data will be

ported between CAD software

from UK vendor Radan Compu-

tational and the Supercapes

process planning package mar-

On the hardware front Sili-

con Graphics will be demon-

strating its recently introduced

range of low-cost workstations,

whose prices start at less than 25,000. But besides being able to run technical packages, such as the AutoCAD design

software, the machines also

have substantial digital media

capabilities enabling them to

be used for transmitting video

One word starting to crop up

more frequently in the engi-

neering software area is Windows, the highly versatile PC

operating system that permits

easy manipulation of on-screen

graphics developed by Micro-

soft. It provides an ohvious

migration path from the sim-

pler DOS operating system -

that bas already effectively monopolised the industrial PC

as well as from Microsoft -

keted by PS Industry.

formance monitoring.

Focus switches to integration

vant technological "solutions". This reflects the mix of real demand from manufacturing industry, advances in enabling technologies and a dash of marketing "push" from vendor companies.

THE SUPPLY of advanced

design and manufacturing systems is not quite a fashion

industry. But there are distinct

trends in the relative impor-

tance attached to particular

business issues and their rele-

Just a few years ago the areas of emphasis included: linking CAD and CAM so that the shopfloor made exactly what the design department wanted:

• networking machine tools through the emerging MAP (Manufacturing Antomation Protocol) communications

• establishing effective standardised means of transferring CAD data between software programs from different ven-

· porting formerly mainframebased software systems onto networks of "desktop" work-stations and even PCs; slashing the price/performance ratios of hardware plat-

None of these issues bas ceased to be relevant, but their provision is increasingly taken for granted as other topics become the focus for "leading

edge" products.

Now the most urgent requirements are seen to

• the complete integration of design and manufacturing data with business functions so that the ordering, manufacturing and despatch of products are controlled by a single database;

 ensuring that such integration is based on accepted OSI (Open Systems Interconnection) standards rather than proprietary links, enabling users to mix and match software systems according to requirements;
• providing software systems

that can support new forms of organisation and procedures, such as cellular and Just-in-Time (JFF) manufacturing.

Products that attempt to chieve company-wide integration of business and technical information are known generically as Enterprise Resource Planning (ERP) systems, or sometimes as Customar Oriented Manufacturing Management Systems (COMMS).

They exploit a range of np-to-date computer technologies such as graphical user interfaces, fourth generation languages (4GLs), relational databases and client/server hardware configurations.

They aim to allow access to commercial and technical data generated by multi-site, multinational functionally-diverse manufacturing operations and to facilitate effective control of key issues such as supply

Such products have started to come onto the market only within the last year or so, but are represented at CIM '93. One example is the JIT Enterprise software package already used



Computervision's first total product modeller runs on Hewlett-Packard'e HP 9000 series 700 workstation

by some 50 companies in the US and now being introduced to the European market by Fourth Shift UK.

The product incorporates the Oracle relational database and has over 50 integrated application modules. The software is explicitly described as an ERP

product and is intended to support "lean," JTT-type manufacturing procedures.

Another ERP product is the Control Manufacturing system from Cincom, first launched in March this year. The company is bringing to CIM '93 a new version of the product, Control

and Pro/PDM (Parametric

Design Manager), which man-

ages the development and sup-

port of large-scale parametric

designs and traditional engi-

And then there is the core

product Itself, Pro/Engineer.

This uses a unique, single data structure which, says Para-metric, improves interaction

among engineers by allowing

all members of the product

development team to work on

which means that when a

neering data.

Manufacturing 7.3, which it describes as a significant step towards its aim of "full Open Systems implementation in

One of the capabilities ERP offers is multi-language input and Cincom says options already available are English, French, German, Swedish, Italian, Spanish, kanji and Portuguese. With an eye to the emerging eastern European market Czech is under develop-

The Manman X system from ASK Computer Systems is a similar product that now boasts over 130 user sites worldwide since its launch just over a year ago. A new version, Release 21, to be introduced at the show, demonstrates ERP's ability to cope with local demands through an option that can cope with Canadian

Ultimately, ERP is expected to sound the death-knell of the well-established MRPII (Manufacturing Resource Planning) systems currently used to integrate husiness and technical

But MRPH is likely to be around for some time yet. though there are signs that systems are evolving towards the ERP model. The new Impcon 2000 MRPII system being introduced by AT&T Istel, for instance, claims to combine a "4GL user interface with proven 3GL MRPH functional-

Elsewhere, several other products emphasise the drive towards integration, though in more specialised applications. Cimtel is introducing CIM-Trak to "close the loop" between its existing engineering data

Several companies are show. ing Windows products. Production Modeling Corporation of Europe will be untroducing Pro-Model for Windows, an upgrade to its DOS-based Pro-Model manufacturing simulation system.

The company says the change greatly enhances case of use and the variety of graphical output available. Design CAD for Windows from PMS (fustruments) is a similar upgrade to the company's existing 2D DesignCAD for DOS product.

One consequence of the change is much more potential for customisation of the system hy users. But in the background there are also the beginnings of a confrontation between the Unix operating system within which most workstation-based software systems currently run and Microsoft's recently launched Windows NT product, eveo more powerful than basic Win-

"High-end" PCs running Windows NT provide comparable performance to "low-end" Unix workstations. One of the first products to exploit the situation is the Pro Engineer parametric modelling system from Parametric Technology. The company will be showing Pro/Engineer running on and

Compaq Deskpro "486" PC. The establishment of Windows/Windows NT products in the engineering software field is likely to prove one of the fundamental driving forces for product development over the next few years.

Mike Fansh is a freelance write: on box ness and technology saues in markfactur

company's 1992 annual report:

tunity remains great. There

are an estimated 3m to 5m

engineers, designers and drafte

ing professionals worldwide

who could benefit from

software such as Pro/Engi-

The hype surrounding Para-

metric has set it up as the one

to match in its chosen market.

But, according to Engineering

Automation Report last Octo-

ber, the company is not "a

short-term phenomenon, des-

tiped to flame out as soon as

the competition gets its act

together. This company is here

That is backed up by Mr Jef-

fry Canin, an analyst at Salo-

mon Brothers. "I am very con-

fident that Parametric will

grow faster than the mechani-

cal design automation market

But it looks as if forther

for the long hanl."

as a whole," he says.

mechanical design automation

The size of our market oppor-

WHEN A company boosts sales from \$11m in 1989 to nearly \$87m last year, and roughly doubles its net profits every year, it is easy to see wby it captures many of the superlatives regularly dished ont by observers of its industry and

financial analysts. Such is the case with Massachusetts-based Parametric Technology, which over the past five years bas emerged from nowhere to claim leadersblp in the mechanical design automation industry - and has become one of the darlings of Wall Street in the process.

in July, the company reported a 101 per cent surge in tbird-quarter earnings to \$11.4m. Its market capitalisation exceeds \$2bn and Mr Steven Walske, president and chief executive, says: "We con-tione to be the driving force in the market place for high-end mechanical design antomation software products."

Independent ob: eothuse similarly. The Cad Report, an industry newslet- mance, worldwide distribution duced two new software prod-

ter, says Parametric's Pro/En gineer family of software prodncts has become the most attractive system for three-dimensional mechanical design, and adds that the company's breatbtaking growth should not surprise anyone.

The object of all this adulation is a company formed in 1985 by Mr Sam Geisberg. Recognising earlier than many how things were going in the Cadcam industry, Mr Geisberg wanted to develop a new Cadcam system that was not only technologically innovative in itself but also not restricted to any particular hardware.

The first Pro/Engineer was launched in 1988 and is now a family of about 27 software modules ranging from conceptual design to manufacturing. The underlying business strategy is to concentrate on mechanical design-throughmanufacturing, and to set the pace through "technological htp, hardware independence, aggressive price/perforThis is the one to match

In practice, this means that Parametric sells only software. which runs on all the major Unix platforms including the latest releases from Sun, Hew-lett-Packard, Silicon Graphics, DEC and IBM. At the CIM '93 show at Birmingham's National Exhibition Centre, it will be running Pro/Engineer on a Compaq 486-based Deskpro 66M under Windows HT, Microsoft's new 32-hit operat-

ing system. It also means regular prod nct enhancements - two hig releases each year compared with one for many of its rivals. was made this May, and intro-

and extensive customer sup- ucts: Pro/Dieface, which prodimension such as a diameter vides stamping designers with is changed, the software works the tools to define complex out on its own how much to components used in the mannchange the rest of the product facture of car body panels and accordingly. other "deep drawn" products;

Company profile: PARAMETRIC TECHNOLOGY

According to The Cad Report, other advantages of Pro/Engineer are that it is visually attractive, has menu terms that mean something to engineers and is reasonably

Competitors really began to take notice of Parametric last year when it announced that Caterpillar, the world's largest construction equipment group, had ordered 2,000 "seats" the term used in the industry for copies of the software - in gest single order ever received hy a Cadcam company. Cummins Engine also said it would progressively standardise on Pro/Engineer, and Toyota and

Ford placed significant orders. To make the most of its opportunities, Parametric is now aggressively expanding outside the US. Its international sales grew hy 80 per cent last year.

In Europe, it has rapidly expanded its presence in the past two years, and sales more than doubled last year following heavy investments to broaden the company's direct

sales and support operations throughout the continent. In an interview earlier this year, Mr Louis Volpe, Parametric's senior vice-president for marketing and operations, said the company was target ing electronics packaging and antomotive companies in Europe. It hoped to use the new Pro/Dieface software as a

the automotive industry. But Mr Volpe also made a high priority to Asia. Over the next 10 years, it wants to achieve a broad halance between its US, European and

way to expand its presence in

Asian turnover. Independent distribution channels have been established throughout the region and a wholly-owned business subsidiary established in Japan, seen as the higgest market opportunity in Asia.

Parametric is keen to exploit the Japanese move from two-dimensional to threedimensional mechanical design, where - surprisingly, perhaps - the country lags hebind developments ln Europe and the US.

Some of Parametric's recent orders hear witness to the developing global strategy. In Angust, it announced a significant order from British Aerospace Defence for seats of Pro/ Engineer for the Lostock. Lancs, and Stevenage, Herts sites of the UK company's Dynamics Division.

Earlier in the year, it won

an order for more than 100 seats from Groupe Schneider, the French industrial and electrical products group. It also picked up one of the largest Cadcam contracts placed by an Indian company - from Tata Engineering and Locomotive (Telco), which makes cars, trucks and construction equip-

Inevitably, Parametric's surge raises questions about how long the growth can continne. Parametric does not have the diversity of several competitors whose products go a long way beyond mechanical design-to-mannfacturing. Thus, it could be said to have all its eggs in one basket. However, according to Mr

Walske and Mr Geisberg in the

he a tall order, as Mr Canin adds a centionary note: the \$1.8bn MDA market worldwide is growing only at 11-12 per cent a year, and is maturing Earnings per share in the year just ended will virtually have doubled, he says, but the rise in 1993-94 could be a mere 43 per cent.

Andrew Baxter

Case study: FORD ELECTRONICS IN SPAIN

Data is in the right bucket

SUCCESS IN manufacturing, as in most walks of life, is based on decision-making. But correct decisions can only be taken if employees are in full possession of information.

If those employees can be "empowered" with the information, the chances of getting the entire production process right, from receiving components from suppliers to send-ing high-quality finished products to customers on time, is

This is the thinking behind an enterprise-wide IT strategy at Ford Electronics Division in Cadiz. Spain, which is part of a worldwide division providing components for Ford Motor, its parent company and other cus-The plant was opened three

years ago, but in developing its IT strategy managers took the unusual step of involving potential users in assessing what their present and future needs would be - rather than simply leaving averything to be decided and implemented by a systems department. What bas emerged is some-

thing that is still very rare in manufacturing - and, until recently, trustratingly hard to achieve, especially for those who believed everything their IT vendors were lelling them in the mid-1980s.

The plant uses an IT system thal integrates every element of the manufacturing, warehouse, finance, business, plant management and personnel All employees have access to on-line real-time information. Every piece of hardware whether it be a personal computer, printer of fax machine and every application is linked via voice or data networks and all information is provided to the user with a "graphical user interface".

The core of the system is a

relational database supplied by Oracle, the California based company which is among the world's top three software suppliers. Employees share com-mon information which they use in different ways, but most importantly they can access the information in the form

they require.
The problem with many traditional database systems is lhat they are "data-rich but information poor," according to Mr Chris Stephenson, manufacturing applications manager at Oracle UK. The Oracle sys-

The availability of real-tima information allows an operator - working, perhaps, on the night-shift when there are no computer engineers around to assess what to do if a part is in short supply. The database will tell him whether the part is in, and whether it has been allocated to a department that does not need it urgently.

High-quality information on production bottlenecks can be made instantaneously available, and data, for example on the top five problems on the plant floor, readily obtained -

Even the biggest companies are going for off-the-shelf packages such as Oracle's, which can be adapted to suit most companies' needs without changing the core software

tem works as if the user is picking up a bucket of data and putting it into his bucket. for example a PC, after which he can do what he likes with it. As the Cadiz plant is part of a worldwide corporation, its

system is linked to Ford Electronics Division'a database and information is downloaded and uploaded as required. Most of the data, though, is generated on the plant floor and the key is to be able to get hold of it quickly and flexibly.

For example, all incoming components from suppliers are harcoded, and the information is downloaded into the database. The system can be programmed to alert operators if a part needs to be checked or if it can proceed to the next stage. The progress of the component through the plant can be traced so that, if the ultimate customer complains about the finished product, all the information on the original suppliers is maintained in the

even down to the performance of individual robots.

All this represents tangible business savings," says Mr Madjid Homayounfal, information systems manager at Ford Electronics' Enfield plant in the UK, where planning for the installation of a similar system has been completed.

Although the aystem at Cadiz is in effect one database. it is in reality a series of integrated applications. The data from the shopfloor is supported by the Oracle Manufacturing software, then there is Oracle Financial for the accountants and Oracle Personnel.

Consequently, "soft issues" such as training and employees' skills are captured on computer in much the same way as the "nitty-gritty" data from the production process. A supervisor wanting to know what skills are available from his work group for a particular project can call them up quickly from the database without having to wait for a

This is what is meant hy empowerment, although it is clearly an area where companies have to be diplomatic, says Mr Homayounfal. But worries about such databases can be allayed hy making employees feel part of the whole process, which could be ... used to track people's education and training achieve-

Ford is not saying how much money it will save from the Cadiz database hnt is clearly impressed by the business benefits, in terms of both time and

money saved. The benefits of such a database could multiply if installed across several plants in a global business. It would be relatively simple to produce, in matter of minutes, a list of the five most common production or quality problems

around the group.
Consequently, big customers such as Ford are very impor-tant for Oracle, which had sales of \$1.5bn last year and manufacturing customers ranging from Asea Brown Boveri to Beijing No 1 Machine Tool Plant

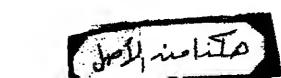
But the attitude of compa-nies towards making such an investment are pretty hardnosed. "The typical payback would be 12-18 months," says Mr Stephenson, hecause "things change so fast." No company could commit itself to a database that took five years to pay for itself in the current

business environment. This underlines why even the higgest companies are going for off-the-shelf packages such as Oracle's, which can be adapted to suit most companies' needs without changing the core software.

Andrew Baxter

13,150





IN 1989, the Indian company Bharat Forge, which makes

automotive components

ranging from axle beams to

steering knucklee, decided it

wanted to introduce Cadcam (computer aided design and

manufacturing) software to

packages are now available.

graphics says it "provides the most comprehensive Cadcam

in the breadth of its related

The Unigraphics system is a

major manufacturing tool for

industries and is used in

producing a wide range of

industrial equipment and

Along with many Cadcam

companies, it has had a

chequered past, but the key

recent event came in 1991

when the EDS subsidiary of

General Motors hought McDonnell Douglas Systems

Integration in the US and the

Cadcam side of McDonnell

Bouglas Information Systems

outside the US, acquiring in

the process the Unigraphics

Mr Jim Duncan, general

aerospace and automotive

products and services.

consumer goods.

(computer-aided

strength.



COMPUTERS IN MANUFACTURING

Company profile: EDS UNIGRAPHICS

Where modesty is out of place



signal side that were designed with the use of Unigraphics

manager for EDS Unigraphics in Europe, says EDS knew a lot about Unigraphics because of the participation of McDonnell Douglas in GM's C4 project, an Internal engineering and design initiative. EDS had also been successful in industries such as hanking, insurance and health, but less so in manufacturing, which was and remains the great strength of Unigraphics.

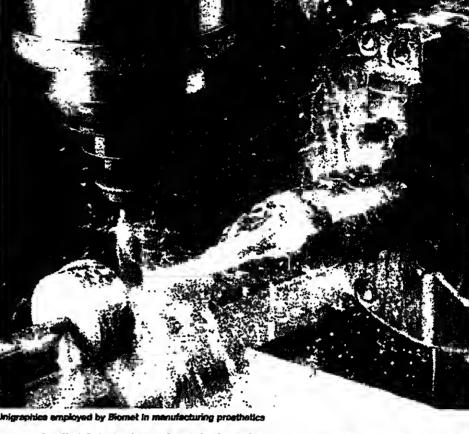
Further reorganisation followed, and research spending has risen sharply under the new owners. According to a recent study of the company hy Mr Dave Weisberg in Engineering Automation Report, initial fears about the merger have proved unfounded.

One concern was that Unigraphics would focus on the needs of GM, giving a lower priority to other customers. In fact, says Mr Weisberg, current product development and husiness activities clearly indicate that RDS Unigraphics are quite interested in pursuing traditional Cadcam markets.

EDS has also avoided one of the big mistakes that can be made in acquiring a high-tech company, and has not made large-scale personnel replacements or changed the personality of the company. Mr John Mazzola is still president and most of the key Unigraphics people are still in place.

ment since the takeover has been the repositioning of the company to offer a much broader range of services than is the norm for a Cadcam vendor. The aim is to satisfy customers' current need to view product modelling via Cad as an one element of the entire husiness process rather than simply a means to raise productivity in the design depart-

Apart from product modelling, therefore, the company has three other closely inter-related areas of activity. Because concurrent engineering requires unrestricted data sharing and systems that can operate with each other, EDS The key strategic develop- Unigraphics produces a soft-



ware tool called information Manager, which manages prod-uct and process definition data throughout the product life cycle, and makes sure information reaches the right people at the right time.

It also offers the EDS advanced computing and com-munications technology to make the product modelling and product data management more valuable. Finally, there is a collaborative approach to enable companies to develop their products and processes, including expert help on pro-cess engineering and produc-

Overall, EDS Unigraphics rather grandly calls this its Unique Perspective on Productivity. The aim, says Mr Duncan, is for the company to secure its future as one of perhaps only four or five global players in the Cadcam market. And that means being global in a geographic sense too. while recognising the differcomes from multinationals." ences between industries and

Jim Duncan, general manager of

FDS Unioraphies in Europe

says Mr Duncan, "Unlese a countries and avoiding the vendor can support the customers in all the countries where it is operating, it woo't stay in the premier league of uppliers." Mr Duncan says EDS Unigra-

phics is experiencing a healthy year in a difficult business environment. In a European market forecast to grow by 4 per cent this year, the value of orders received in the first half of the year grew by more than 10 per cent, compared with the same period of 1992. "The business has benefited

dangers of becoming over-cen-

"So much of our husiness

enormously from the new global organisation." he says. But the company is happy to admit that even with the mus cle of EDS, and, ultimately, GM

behind it, it cannot do everything itself. Accordingly, it has formed several strategic partnerships with smaller companies which Mr Duncan calls "best in class" companies, such as ICAD with its Knowledgepased Engineering software.

Some of these relationships are acquiring new importance this year because of the launch by EDS Unigraphics of V10 the 10th version of its Unigraphics Cadcam software. This involves much more than the usual incremental improvements found in new versions of software and is the result, says the company, of constant probing for ways to help manufacturers bring products to market faster, more cost-effectively

and with built-in quality.
Features include the ability to switch between different design processes, such as wireframe, surfaces and 3D solids and a new easy-to-use Motifbased user interface.

V10 was launched in May, and is the most important result so far of the increased R&D spending since EDS took over. Last month, in a significant development that was a response to the wishes of EDS Unigraphics customers, the company said that V10 is being "ported for," or made to run on, workstations made by Silicon Graphics, one of the lead-ing 3D graphics workstation

On the oear horizon for EDS Unigraphics is the full implementation of a concept called virtual product development, which is related to one of the current buzz-phrases in US corporate-speak, the "virtual" factory or corporation. This is the trend for companies to form ever-shifting relationships with other corporations without geographic berriers, getting e job or part of a joh done wher-ever it can be done best and quickest, and cutting out the fixed cost of a heavy infra-

structure. Virtual product development is similar in that it means people from different companies and countries will work coocurrently, and even on an ad hoc hasis, to design and manufacture products.

The key to the success of such an idea is a communication network which can distribute information about the product electronically - which why EDS Unigraphics believes there is so much more to Cadcam than just throwing out the drawing tables.

Andrew Baxter

Where would software have most effect in the textile industry?

Areas ripe for technology

industries unlike those that make canned sonp or assemble motor cars.

Two hundred years ago, they were the first to be industrialised. They still have their roots in craft industries and parts of them remain to this

day highly labour-intensive. Most important of all, they are vertically integrated. Europe's biggest textile company, Coats Viyella, for example, makes thread, cloth and garments and retails them too. It is as if Ford owned British Steel and Shell's service sta-

Perhaps not surprisingly, then, the challenge confronting textiles and clothing executives is as much where to computerise as how to do it. In the 1990s, they have the possibility of introducing computers into just about any link in the manufacturing chain.

Computers are even used at the very start of the process. More than a year before a cotton shirt is bought by a con-sumer, a computer model of plant development helps US cotton growers maximise yield and quality.

After harvesting, the cotton is then sent to depots where a software package, developed by a company owned by the cotton growers, helps to choose a suitable blend of raw fibres. By selecting combinations of fibre characteristics, such as thickness and length, the qualities of the eventual yarn can be determined. The software is linked to

cotton mill storage areas. It

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directs the placement on the warehouse floor of different cotton hales. The automatic machinery that picks up the hales in a preprogrammed sequence and takes them to be hlended into the raw material

for yarn making.
As well as belping determine the feel of the yarn and cloth to be made, the software helps determine its strength, a critical element in setting the speed of spinning and weaving machines.

The idea may be extended beyond cotton, if a European Community-funded project now under way comes to frui-

selection is weaving or knitting. Like other manufacturing processes, they have already seen the introduction of computers for monitoring and process control. But several areas remain that are ripe for the introduc-

tion of the latest high speed computer technologies. Once the cloth is made, it must be inspected. This is still usually done by a worker looking at the cloth as it rolls

by. Even in the latest factories, such as Toray's polyester plant in Mansfield, Nottinghamshire, fabric inspection

At one of Europe's largest lace manufacturers, designers have forsaken pen and ink for the power of computer-aided design

tion. It aims to allow clothing designers to specify the characteristics of the cloth and ask a computer to tell them the best way of making it.

The clothing designer will be offered a range of routes to achieve a given fabric performance without recourse to the expense and time involved in selecting fibre, yarns, weaving finishing and testing samples.
As well as cutting design

costs, it could simplify the production cycle, improve quality - important for developed countries in competition with low labour-cost rivals - and even help introduce new fabric Ideas and clothing constructjons.

In the long chain of production involved in making

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needs the human eye. Some clothing makers duplicate the effort and employ etail to scan the rolls of cloth looking for

UK consultancy Era Technology is working on an auto-matic inspection system that would antomatically alert machine operators to the presence of defects. It hopes to extend the principle to the monitoring of leather, paper, printing and footwear sectors.

This kind of procedure, as with most image-based analysis, relies on high-powered electronics. The ERA systems uses parallel processing integrated circuits in an array of TMS320C40 digital signal processing chipe. This in turn feeds information into Transputer chips for analysis.

Cloth design is also being done increasingly on computere. At Nottingham-hased Sherwood Gronp, one of Europe's largest lace manufacturers, for example, designers have forsaken pen and ink for the power of computer-aided design (CAD). In the US, CAD is being used

to create fabric print designs. It goes a stage further than Sherwood's system because it links the design function to manufacturing. One system, called the Apparel and Accessory Manufacturing Pipeline (AAMP), integrates the clothcutting, printing and stitching processes. The \$1m package allows rapid prototyping and short production runs.

It is a short step from CAD to using computers to reduce wastage of cloth when it is cut into shapes ready to be stitched into garments.

Cloth-cutting has long been mechanically assisted. Traditionally, the cutter follows

clothes, the stage after yarn lines drawn by hand on the cloth liself. UK-based clothes manufacturer Burberry this year introduced a simple IRM PC-based softwere package that allows the shapes of the cloth pleces to be fitted together jigsaw-like to make the best use of the width of cloth available. The PC ontpots the design onto a wide carriage printer and the outlines are used as stencils by the cutter.

The next logical stage, already in use by some clothing manufacturers, is to link such a CAD system directly to cloth-cutting machines.

This is a technique favoured

hy manufacturers in Germany as part of "outward process ing", a system of manufacture that minimises the labour content within a high wage-cost country. After automatic cutting, cloth pieces are shipped to lower wage cost countries for assembly into garments. Garment-making Itself is

still resistant to the introduction of computers: clothes manufacturers still find it more productive to shift production to lower wage-cost regions than invest in the possibility of automated garment assembly.

Nevertheless, efficiency can be improved through com-puter links with garment retailers.

A typical system is an "integrated supply chain product" made by UK company Prologic. This software package links garment orders with information on supply bottlenecks in, for example, the schedule of cloth delivery.

For example, If a retail chaln orders a range of clothes, the salesman keys in that information. The computer responds by providing possible supply detes. If a higher priority is given to the new order, the software calculates what the knock-on effect will be on other orders that need the same cloth.

Prologic's customers include such companies as Aquascutum and Paul Smith. Computer-literate textiles

and clothing executives face a dazzling choice of ways to introdoce computer technology luto their companies' mannfacturing processes. But unlike office managers, it is not a question of which accounts or spreadsheet package to buy. Instead they need to examine their production process and consider where, precisely, computers would make the most difference.

Daniel Green



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John Griffiths looks at changes in attitudes in the motor industry

Development times cut

SINCE THE late 1980s, the motor industry bas in effect abandoned the notion that the wholesale application of computer-controlled automation and robotics might be the best way for the west to manufacture cars cost-effectively against Japan's hard-working labour forces and lower social overheads.

For a period, what was then Europe's largest sutomotive group, Fiat, did indeed believe that such an spproach would provide the definitive answer to the Japanese.

Out of that conviction grew Fiat's massive Cassino plant, not far from Naples, where Tipo and Uno models have been built with a degree of automation unmatched elsewhere before or since.

where before or since.

An army of automsted transfer lines and Comau robots – built by Fiat's own robotics subsidiary – stamps and assembles pressings carried on integrated computer-guided transport systems, paints bodies, assembles the car interior from modules – and even fills the tank at the end of the production process with the correct grade of fuel.

But just as Volkswagen found with its venture into extreme automation, "Hall 54" at Wolfsburg, Cassino has proved too inflexible.

Manufacturers are having to diversify their product ranges to cater to the whims of ever more demanding cousumers, and for the same reason car life cycles have had to shorten.

life cycles have had to shorten.

Not only did Cassino, in the end, fail to yield the hoped-for productivity, its rigidities have looked increasingly out of place in an industry ever more concerned with the human

resources aspects of Japaneseinspired "lean" manufacturing and how to utilise simultaneous engineering principles to bring products more quickly and competitively to market. Flat, too, has seen the flaws

in the Cassino concept.

Melfi, its new plant in the south of Italy to produce the Punto small car on which Fiat's future heavily depends, exemplifies Fiat's new theology of the "integrated factory", which it has begun to test out selectively at its plants in the

past 18 months.

"Cassino was focused on 'hard' issues, Melfi is about 'soft' issues," says Mr Paolo Cantarella, Fiat Auto's chief executive.

"The integration of man and machine is different at Melfi. It is about how to organise activities, to involve people, to train them and keep them motivated to the job, rather than how to put the wheel on the car. We know how to do that," he adds. But they will be organising these activities with a sophisticated array of computers. For computer systems have now permeated every aspect of the

motor industry, from first con-

cept to delivery of vehicle to

dealer and the flow of service and repair parts.

This applies from the largest companies such as General Motors and Ford to smaller and medium-size companies including the UK's Rover

Rover has spent £200m at its Cowley complex in Oxfordshire to create what it claims to be one of Europe's most compact

and flexible car plants.

Among Rover's prime concerns has been to introduce the team working, multi-skilling,

flexibility, kaizen (continuous improvement) and cultural attitudes among its workforce that are now recognised as lying at the heart of Japanese "lean" manufacturing success in the motor industry.

But to this workforce, the four inter-related systems which control the main plant processes are servant, not master. The huild control system (BCS), Itself triggered by computer-generated dealer orders, tracks bodyshells through all stages of manufacture by cam-

It allows construction, manufacturing, project planning and other divisions to be closely involved with a model programme at the earliest design phase

ara-reading bar-coded tags.

The painted body store management system releases the shells onto the assembly line according to hatch requirements. A third system controls the movement of components within the distribution centre and on-site storage areas to provide justin-time line deliveries. A component identification system ensures correct fitment of components which look alike hut which are specific to a particular vehicle

All of these systems work in "open" mode, which allows information on them to be accessed by any employee. The control computers are also linked to a messaging system that can be used to give essentiated.

tial information to employees throughout the facility. It is in the visualisation of new design possibilities, however, that the motor industry has made some of its most

valuable advances with com-

puters.

Ford, for example, is rapidly becoming heavily reliant on its Design Computer System, with which it has been working

since 1990.

The most important DCS underlying function, as with most computer technology in the motor industry, is significantly to reduce product development times. It allows construction, manufacturing, project planning and other divisions to be closely involved with a modal programme at the earliest design phase.

the earliest design phase.

The DCS for car body design was developed at Ford's Merkenich research and development centre at Cologne; that for interior design in Ford's similar centre at Dunton in the UK, with which Merkenich is

connected directly.

Together, they allow the concept designer to produce three-dimensional designs on-screen which provide both a mathematical and geometrical computational basis for technical designers. Of major importance in the process is the generation of life-size, photographic-quality images which can also be evaluated subjectivaly.

The system had also to allow early access to design information for manufacturing purposes, and to provide for the instant display of corrections and alternatives in order to accelerate decision-making.

Thus, separate paintbox,

modelling systems were integrated to form DCS. The designer's electronic pen

three-dimensional computer

The designer's electronic pen produces a photographic quality drawing on screen, with the concept vehicle's shape color and proportions open to almost instant change – for example during a presentation.

Crucially, the system is also capable of memorising a sequence of such "drawings" and turning them into a rotatable, "real life" presentation of the proposed vehicle, allowing judgments to be made of its styling and proportions previously possible only by making time-absorbing mock-ups.

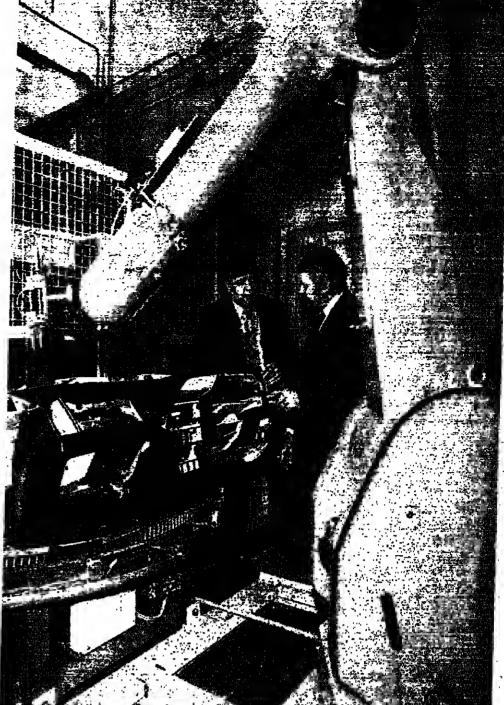
This is done with the further aid of CDRS (conceptual design rendering system), creating a three-dimensional model of the vehicle body, all the data for which is available for computer aided manufacturing decisions.

Ford executives at Merkenich calculate that the system reduces the "clay model" phase by three months because most of the models previously made for visual evaluation are no longer necessary. Models of both the vehicle exterior and interior can be machines directly from the database in a variety of materials.

Even the computer-aided engineering processes by which the vehicle's structural integrity is analysed can be completed at a far earlier stage than previously.

Before DCS' introduction,

Before DCS introduction, Ford designers generated the initial two-dimensional design of a future car on paper. This would be amended as felt necessary by approval committees and only then used as the basis for an initial clay model.



Robotised manufacture of components for the new Peugeol 306 is controlled by the Data 3 just-in-time computerised manufacturing system from Hoskyns Application Products

■ AEROSPACE COMPONENTS

A landmark in technology

THE FOUR wheels on the main landing gear of the new Airbus A330/340 aircraft are fastened to the leg of the undercarriage by a highly-stressed "hogey heam" containing numerous complex curved surfaces.

For Airbus it represents an effective lightweight solution to the task of supporting the landing force of a 257-tonne aircraft. For Dowry Aerospace Landing Gear of Gloucester, which supplies the beam as part of a £300m contract for the whole A330/340 landing gear, the heam represents a landmark in its development and ose of advanced design and manufacturing technol-

According to Mr Chris Morgan of Dowty, who played a leading role in the development project, the heam was "the first major component" that the company has produced purely electronically, without any physical mockings during the whole pro-

gramme.
As such, the heam represents a key element in the engineering strategies that Dowty and other aerospace companies are implementing in pursuit of their husiness

aims.

At Dowty, Mr Morgan is engineering group leader for new projects and is in charge of developing the company's use of computers in a change programme that got under

way two years ago.

The aims are to introduce concurrent engineering, in other words the simultaneous execution of previously sequential tasks, as a normal working practice and support the development of advanced, low-weight landing gear

An essential requirement, he says, is to make 3D computer modelling the standard way of carrying ont design work and to integrate design software with the various specialist analysis packages, such as finite element programs, used by the company.

The company is therefore phasing out use of its old Graftek CAD software and stepping up use of the Catia software marketed by IBM. It has also invested £250,000 in new workstation hardware — IBM Risc and Hewlett-Packard machines — so that all its design and analysis software now runs in a uniform Unixoperating environment and data can be transferred between different programs easily and quickly.

Such internal data transfers use the IGES (Initial Graphics Exchange Specification) translation software, though in a version "flavoured" slightly to Dowty's own needs. Consequently, says Mr Morgan, computerised finite element analysis is now an everyday tool rather than an occasional resource for particularly complex tasks.

Modern workstation hardware also runs the Command CNC (Computer Numerical Control) software package that now drives shopfloor machine tools. The company's main manufacturing-related invest-

where other parts of the A330/ 340 landing gear are made. Elsewhere in the industry similar strategies and achievements are in evidence. Rolls-Royce Aeroengines in Derby has spent £10m over the last four years installing some 700 Unix workstation platforms - this time Sun and Sili-

ment, however, has been in a

new £45m plant în Canada

con Graphics machines.

The aim, as Mr Derek Gale, head of engineering systems, makes clear, is again "integration", with the objective of cutting total engine development times by one third. Nevertheless, he says that the company has had to trim back investment in the recession and that the policy has been one of "minimum" necessary investment.

Every bit about "every engine going out of the door" will be in a single database

Ultimately, the company wants all 4,000 of its engineering staff to have their own terminals, though some of them will be able to make do with PCs.

An equally significant long-term goal is the introduction of full engineering data management, in effect the integration of all business and technical information. This will enable the company to have every bit of information about "every engine going ont of the door" in a single database.

One difference between Rolls-Royce and Dowty, however, is the former's much more guarded attitude towards standardised data transfer by means such as IGES. Rolls-Royce prefers to use a series of customised links to integrate its design and analysis programs.

This lack of uniformity is also evident in the area of design data exchange between aircraft and engine builders and both their customers and component suppliers. Unlike the car industry where computerised data exchange is virtually the norm, there has been little concerted effort in this direction.

Instead, there is a mix of data transfer between identical CAD systems, dissimilar systems using IGES and a still heavy reliance on the use of paper drawings. A major reason is the establishment of defacto communications standards for specific areas of aircraft based on particular proprietary CAD systems.

Dowty's adoption of Catia, for instance, was prompted by the fact that the software was already widely used for landing gear design.

Unsurprisingly, the techniques now being pioneered in the civil aircraft industry are also heing thoroughly exploited in the military world.

world.

The latest version of the Harrier jump-jet, the T10, due to make its maiden flight very shortly, has heen developed jointly by British Aerospace and McDonnell Douglas in the US. BAe has had responsibility for the complete rear half of the fuselage and, according to Mr Gary Smith, group leader for CAD applications for the company's Military Aircraft Division at Farnborough, modelled the structure completely

in 3D computer form.

That enabled the design team to calculate the lengths of cable and wire running through the section "with 99.9 per cent accuracy".

per cent accuracy".

Previously, it would have been necessary to build a full-size wooden mock-np or even buy in a real fuselage section.

BAe would adopt the same approach, Mr Smith adds, even for a completely new aircraft development project.

At the manufacturing level the use of computer-controlled machine tools fed with information directly from the design database is now standard technology. The real differentiating factor between companies is how effectively they organise their use of the technology and link it to

streamlined working practices. Short Brothers in Bellast, for instance, which is now making major structural components for several customers including Boeing, is currently three-quarters of the way through a £200m investment programme that will completely modernise all its production plant.

It is also using a software system called Matrix, developed jointly with AT&T Istel, that helps maximise the ntilisation of individual pieces of equipment.

Mr Russell MacFadden, manufacturing engineering director for aircraft, says the investment has been linked with a reorganisation of the company into a series of "mini-businesses" in which semi-antonomous manufacturing units act as suppliers of business units, concentrating on the needs of particular customers

All development projects are now carried out by multi-disciplinary "design-build teams" and the company has invested more than £5m in training to support the necessary "culture change". In parallel, it has reduced the number of its component suppliers from around 100 to 14. Future developments will see suppliers hecoming full members of

Mike Farish

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